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IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF SACRAMENTO

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HON. STEVEN H. RODDA, JUDGE, DEPARTMENT 44/1

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LAURENCE LUCIER and LAURIE LUCIER,)
)
Plaintiffs,)
)
-vs-) No. 02AS01909
)
PHILIP MORRIS INCORPORATED, and,)
R.J. REYNOLDS TOBACCO COMPANY)
)
Defendants.)
)

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REPORTER'S DAILY TRANSCRIPT OF PROCEEDINGS AT JURY TRIAL

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MONDAY, DECEMBER 9, 2002

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C H R O N O L O G I C A L I N D E X

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SAMUEL HAMMAR

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Monday, December 9, 2002, P.M. Session: 5988
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Redirect Examination by Mr. Paul 6052
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E X H I B I T S I N D E X

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Defendant RJR

No.	Description	I.D.	I.E.
ACX-000103	Pie Chart, Medical Specialties	5905	
ACX-000104	Chart	5905	
ACX-000105	One-Page Chart, Adenopathy	5905	
ACX-000153	Dr. Mehta's Consultation Report	5907	5911
ACL-000895	Report - Oncology/Renal/Kidney -		

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	Santa Rosa Memorial Hospital		5912	
ALC-000047	Fine-Needle Aspirate Report	5930	5930	
ACX-000106	Chart of a Human Body	5939		
AN-040017	"Saturated Fat Intake and Lung Cancer Risk Among Nonsmoking Women in Missouri", Journal of The National Cancer Institute	5965		
ACL-000053	Medical Records from Bruce O'Neil, M.D.	5977		
ACX-000177	Full Blood Chemistry Report, New York Life	5978	5979	
ACX-000176	Full Blood Chemistry Results, New York Life	5979	5982	
ALC-000689	"Primary Mucinous Adenocarcinoma of the Lung with Signet-Ring Cells", J. Kish	5995	5998	
ACL-000969	Greco, Hainsworth Excerpt	6010		

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E X H I B I T S I N D E X

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Defendant RJR

No.	Description	I.D.	I.E.
ALC-000949	Hammar, "Metastatic Adenocarcinoma of Unknown Primary Origin", Human Pathology	6022	
ACX-000097	Samuel Hammar's Letter to Colin Olsen re Pathology Report	6031	
PX-2011	Dr. Hammar's Notes re Testimony, one page	6043	
ALC-000690	"Primary Signet Ring Cell Adenocarcinomas of the Lung,		

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15 Clinical Study", Castro/Moran 6077
16 ALC-000691 "Primary Signet-Ring Cell
17 Carcinoma of the Lung," Hayashi 6089
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1 MONDAY, DECEMBER 9, 2002
2 (Morning Session)
3 ---o0o---
4 The matter of LAURENCE LUCIER and LAURIE LUCIER, et
5 al, Plaintiffs, versus PHILIP MORRIS INCORPORATED, et al.,
6 Defendants, Case No. 02AS01909, came on regularly this day
7 before the Honorable Steven H. Rodda, Judge of the Superior
8 Court of the State of California, for the County of
9 Sacramento, Department 44/1 at 9:10 o'clock a.m.
10 The Plaintiffs, LAURENCE LUCIER and LAURIE LUCIER,
11 were represented by: GARY M. PAUL, Attorney at Law;
12 MARY ALEXANDER, Attorney at Law; and ROBERT M. BROWN,
13 Attorney at Law.
14 The Defendant PHILIP MORRIS INCORPORATED was
15 represented by: GERALD V. BARRON, Attorney at Law;
16 LAURA C. FEY, Attorney at Law; STEPHANIE A. SCHRANDT,
17 Attorney at Law; DEBORAH A. SMITH, Attorney at Law;

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and ANNIE Y.S. CHUANG, Attorney at Law.

The Defendant R.J. REYNOLDS TOBACCO COMPANY was represented by: THEODORE M. GROSSMAN, Attorney at Law; HAROLD K. GORDON, Attorney at Law; ELIZABETH P. KESSLER, Attorney at Law; DANIEL J. McLOON, Attorney at Law, and STEVEN N. GEISE, Attorney at Law.

The following proceedings were then had:

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THE COURT: Okay good morning.

(All say "good morning".)

THE COURT: I think the jurors are here.

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Is there anything we have to take up as a preliminary matter?

MR. PAUL: No, your Honor.

THE COURT: Okay. Let's bring them in.

(The jurors are brought in at 9:11 am.)

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THE COURT: Good morning.

(All say "good morning".)

THE COURT: Ready, are we?

MR. GROSSMAN: Yes, your Honor.

MR. PAUL: I had Dr. Hammar on the stand.

THE COURT: Okay.

MR. GROSSMAN: Thank you, your Honor.

Good morning, everyone. Good to see you all here.

CONTINUED TESTIMONY OF

SAMUEL HAMMAR, a witness called by the Plaintiffs:

CROSS EXAMINATION (Continued)

BY MR. GROSSMAN, Counsel for the Defendant RJ Reynolds

Q. Dr. Hammar, good morning to you.

A. Good morning.

Q. You spoke during your direct examination of the four

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subspecialties of pulmonology. I would like to pull back a little bit and talk about the various broader specialties of medicine and how they relate to each other. Okay?

A. Sure.

Q. Could we pull up the chart, broad chart.

Doctor, these are essentially the main branches of medicine, aren't they: Pathology, internal medicine,

radiology and psychiatry and neurology and obstetrics/gynecology and surgery?

A. Yes.

Q. Now, internal medicine would include subspecialties, just as pathology does?

A. Yes.

Q. It includes cardiology, the study of the heart, pulmonology, the study of the lungs, gastroenterology and the digestive systems and various others, right?

A. Yes.

Q. And radiologists are specialties who look at CAT scans and x-rays?

A. Yes.

Q. And of course, surgery has a number of subspecialties as well?

A. Yes.

Q. Now, you are certified, board-certified in pathology only; is that right?

A. Yes.

Q. All right. And in a clinical setting, in a hospital, or in doctors' offices, a patient would normally first see an internist, one of the internal-medicine specialists; is that right?

A. Or a family practice doctor, probably in today's

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setting.

Q. Either one?

A. Well, usually in today's setting, because of the way H.M.O.'s are set up, they almost always have to go through a

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family medicine doctor.

Q. And then they might be sent to a specialist in internal medicine from the family doctor; is that right?

A. Yes.

Q. And the family doctor or the internal-medicine specialist conducts a physical; is that correct?

A. Correct.

Q. You don't conduct physicals, right?

A. No, I don't.

Q. He would also take or she would also take a personal history; is that right?

A. Yes.

Q. And, typically, a family practitioner or an internal specialist would ask about a person's family history, history of smoking and drinking; is that correct?

A. Yes.

Q. Would also ask about diet and drug use; is that correct?

A. Drug use, yes; diet, maybe.

Q. They ought to ask about diet, shouldn't they?

A. Probably a good idea, sure.

Q. And they also ought to ask about exercise, whether they do or not, shouldn't they?

A. They probably should. They usually don't.

Q. They ask about those things both to give guidance for the future and to provide clues of possible things to look for; is that correct?

A. Yes.

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Q. Now, if the family doctor or internist suspects that there may be cancer or some other serious disease, he might order x-rays or CAT scans from a radiologist, right?
A. Yes.
Q. You would -- You are not an expert in radiology, as you said earlier, and you rely upon radiologists to read radiology CAT scans and experts -- And x-rays; is that correct?
A. Yes.
Q. Okay. Now, in your role as a pathologist, we spoke last Thursday about your conducting autopsies.
You also review biopsies and cytologies; is that correct?
A. Yes.
Q. And biopsies are the slices that are taken from cell blocks, typically, from various organs?
A. Well, you can biopsy essentially almost any type of tissues or organ in the interior body, and those would usually be sent to us and fixative, usually formal, and the sizes and shapes, et cetera, would vary depending upon what was biopsied and the person who biopsied it.
Q. Okay. And cytology is including -- I guess the most familiar would be pap smears, right?
A. Yes.
Q. There -- And in the case of -- Of Mr. Luce, there was a cytology taken from a washing in the lung when the bronchoscopy was performed; is that correct?
A. Yes.
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Q. That's similar -- There's a washing that was conducted in -- In the bronchus, and the cells that were removed from that cytology were looked at under the

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microscope. Is that correct?
A. Yes.
Q. Okay. Now, radiology is very important, as is pathology, isn't it?
A. Yes.
Q. But no matter -- But it has its limits, doesn't it?
A. Yes.
Q. And no one can diagnose cancer on an x-ray; isn't that right?
A. I don't think they can make an absolute diagnosis of cancer on an x-ray. What turns out to be the case is, I think there are certain images or certain shadows that are very highly suggestive of cancer, where -- That the radiologists become very familiar with. But I can't make diagnoses radiographically.
Q. You can't make a diagnosis on an x-ray, but there are certain kinds of images that you note look particularly like they might be cancer; is that correct?
A. Yes.
Q. For example, there is something that you referred to in deposition as a spiculated form?
A. Yes, spiculated mass in the lung.
Q. That would be a typical presentation of a lung cancer; is that correct?
A. Yes.

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Q. Highly suggestive of lung cancer; is that correct?
A. Yes.
Q. Now, "spiculated" means it looks kind of like a starfish?
A. Yes.
Q. Or an octopus with legs going all around?
A. Yes. Probably the best way to describe it is that

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the margin of the mass is irregular, not perfectly round, at least in most instances, but it's kind of nodule and starfish-like.

Q. Indeed, in Mr. Lucier's case, there wasn't evidence of any spiculated mass at all; isn't that correct?

A. That's correct.

Q. Now, doctor, as you said, only a pathologist can diagnose cancer, but cancer isn't just one disease. It's many, isn't it?

A. It is.

Q. And those different diseases have different etiologies we'll call them, correct?

A. Yes.

Q. They have different prognoses, that is, the likelihood that someone will survive or get better is different, depending upon the kind of cancer?

A. Yes.

Q. And they have different kinds of treatment; isn't that right?

A. Yes.

Q. In the types of lung cancer, the most important

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determination to make is whether the lung cancer is small-cell or non-small-cell; is that correct?

A. Yes.

Q. Because they're treated very differently?

A. Up until a point, yes.

Q. For example, adenocarcinoma, if it's found just in the lung, is also resected by surgery; is that correct?

A. That's correct.

Q. But small-cell would not be resected by surgery; isn't that correct?

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A. That's correct. Yes.
Q. Now, as you suggested in direct testimony, cancer can spread or metastasize; isn't that right?
A. Yes.
Q. But no matter where it spreads or metastasizes, it's defined by the organ where it started, isn't it?
A. It is.
Q. So if cancer starts in the kidney and spreads to the lung, it's still kidney cancer?
A. It would be referred to as a metastatic kidney cancer or metastatic renal cell carcinoma.
Q. If cancer spreads from the kidney to the lung, as an example, it's not lung cancer?
A. It's not a primary lung cancer. I think some people would still call it lung cancer, but they should use the designation as metastatic lung cancer.
Q. Yes, because it -- The risk factors for lung cancer don't apply to metastases; is that correct?

A. Yes, and no. For example, renal cell carcinoma is very strongly associated with cigarette smoking, just like lung cancer is, but it's not 100 percent.
Q. But that -- But the question is what are the risk factors for the primary site, not what are the risk factors for the metastasis; is that correct?
A. I agree.
Q. And germ-cell cancer has no relationship to smoking; is that correct?
A. Correct.
Q. If germ-cell cancer went to the lung, the fact that it went to the lung would have nothing to do with smoking?
A. That is correct.
Q. Now, Mr. Lucier had cancer in his brain?

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A. He did.
Q. In his -- It has occasionally been referred to in court as "brain cancer", but it was not brain cancer, was it?
A. No. There again, it is sometimes used inaccurately. That should be referred to as metastatic brain cancer, or maybe a better way to put it would be metastatic carcinoma to the brain.
Q. And based on everything that you've seen to a reasonable degree of medical certainty, Mr. Lucier did not have brain cancer; isn't that correct?
A. He did not have primary brain cancer; that is correct.
Q. Now, in a clinical setting, after you review a biopsy

or a cytology, you send the records to the internist; is that correct?
A. The internist, the surgeon or whoever spent us a specimen. Sometimes it's the radiologist now, based on the fact that they do a fair number of, a number of fine-needle-aspiration biopsies.
Q. You try to provide the surgeon or the internist with as much information as would be helpful; is that correct?
A. Yes.
Q. For example, you wouldn't just say "cancer".
A. That is correct.
Q. You would say the kind of cancer that you saw and any special features of it that you saw; is that correct?
A. That's correct.
Q. All right. And that's because it's ultimately up to the internist or other doctor who you sent the record to to determine what additional tests to perform and what steps to

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take; is that correct?

A. That is correct. That's usually in the case of cancer a combination of the internist and the oncologist.

Q. Well, oncology is one of the subspecialties of internal medicine as well, isn't it?

A. Yes.

Q. But it varies from hospital to hospital and setting to setting as to which internist may stage the cancer and determine what additional tests to take; is that correct?

A. Yes.

Q. In fact, in this case, the cancer was staged, and the

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determination of -- What additional tests, if any, to be performed by -- Was made by Dr. Kenneth Mehta; is that correct?

A. That is correct, yes.

Q. He staged this cancer as 3-A?

A. Yes.

Q. And he also determined not to take additional tests after the -- The mediastinoscopy was performed; is that correct?

A. That is correct, yes.

Q. And Dr. Kenneth Mehta is a pulmonologist; is that correct?

A. He is, yes.

Q. That's a specialist of the lung; is that correct?

A. Yes.

Q. Now, with regard to Mr. Lucier, you've reviewed some of his medical records that were provided to you by plaintiff's counsel; is that correct?

A. Yes.

Q. You told us that the -- At your deposition that you were quite sure that you didn't have all of his medical

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records?

A. That is correct, yes.

Q. Have you been provided with additional medical records?

A. I've been provided with some additional medical records that represented those between about April and June of 2002.

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Q. Okay. You still don't believe that you have all of his records, though; is that correct?

A. Well, you know, there are so many records that are generated when people go to hospitals that -- I received really about a -- I don't know -- Four inches or so of medical records that I brought with me to the deposition. I doubt if that's the entire number of medical records, but I think I've probably received all of the reports by the physicians or most of the physicians who take care of Mr. Lucier.

Q. Okay. At least you believe you have seen the pathology reports and the radiology reports and the basic reports of internal specialists?

A. Yes.

Q. Okay. You also have reviewed pathologic materials, correct?

A. Yes.

Q. Biopsy slides, right?

A. Yes.

Q. And you've also reviewed the depositions of Dr. Stephen Brantley, who was a consulting pathologist hired -- Who was engaged by Philip Morris; is that correct?

A. Yes.

Q. And also of Dr. Sanford Barsky, who was a pathologist

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who had -- Who has consulting with R.J. Reynolds; is that correct?

A. Yes.

Q. You're familiar with Dr. Barsky from the medical

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literature; isn't that correct?

A. I am, yes.

Q. His writing about adenocarcinoma in particular, scar cancers?

A. Scar cancers, yes.

Q. Now, Doctor, the -- You said last Thursday that you can't produce a slide of any cancer in Mr. Lucier's lungs because no cancer has ever been taken from his lungs; is that correct? No cancer cells?

A. That is correct.

Q. But the -- And in addition -- Well, another way -- I'll rephrase this.

Since no cancer cells were ever taken from his lungs, there is no direct evidence of cancer in his lungs; is that correct?

A. (No Response)

Q. It's essentially circumstantial?

A. Well, I guess that depends how you define "circumstantial". I would say that I think, radiographically, there's very direct evidence that he has a mass in his lung now. If that's, I guess, considered circumstantial, that would be circumstantial.

But if that would be considered objective evidence, then I would say maybe it's not circumstantial.

Q. Well, we'll turn to the radiology in a moment.

A. Okay.

Q. You're not a radiologist; you could not sign out as a radiologist in a hospital; is that correct?

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A. That is correct.
Q. And you rely on radiology reports of others; is that correct?
A. Yes.
Q. And those who you rely upon are radiologists, right?
A. That is correct.
Q. A hospital setting, it's a radiologist, not a pathologist or a pulmonologist, who will make the ultimate reading of an x-ray or CAT scan; is that correct?
A. I would say that's debatable, and the reason I say that is because pulmonologists become so good at reading pulmonology radiographs that I sometimes think that they don't take what the radiologist says.
And I shouldn't say that in a negative way; it's -- Because it's not meant that way. But pulmonary doctors see so many radiographs and so many chest CT scans and so many bronchs and CC procedures, that I think they rely more on what they think of a radiograph rather than the radiologist who signed it out.
But, nevertheless, the official function of the radiologist is to interpret the shadows and the CT scan and to issue a report just like the pathologist does, and get back to the clinical doctor who was taking care of the patient.
Q. Surgeons look at x-rays too?
A. Yes, they do.
Q. Lots of doctors look at x-rays?
A. Yes.
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Q. Lots of doctors look at x-rays often?
A. Yes.
Q. But ultimately in a hospital setting only the

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radiologist can sign out the final record on radiology; isn't that correct?

A. I think that is correct with respect to signing out the report, yes.

Q. Now, let's turn -- Insofar as the pathology is concerned, the circumstantial evidence with regard to whether Mr. Lucier had lung cancer is circumstantial, not direct, because no cancer cells were ever taken from his lungs; isn't that right?

MR. PAUL: Your Honor, I object. "Circumstantial".

MR. GROSSMAN: I'm not using "circumstantial" in the legal sense.

THE COURT: Okay. Rephrase the question, please.

MR. GROSSMAN: There's no direct evidence that Mr. Lucier had cancer in his lung; is that correct?

MR. PAUL: Still calls for a legal conclusion.

THE COURT: Overruled.

THE WITNESS: Well, again, I guess we get into the semantic thing about what "direct" means. There was never a biopsy of lung parenchymal, parenchymal tissue that showed cancer.

Q. And when you speak of parenchyma, that's the meat of the lung?

A. Yes.

Q. There never was a biopsy taken of his bronchus or

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other airways which showed lung cancer, showed cancer; isn't that correct?

A. That is correct. There were some biopsies taken, but they did show the cancer. But when you read the pulmonologist's bronchoscope report, the pulmonologist did state that they saw any intrabronchial tumor.

Q. They didn't see a tumor either?

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A. They didn't see one, that's correct.
Q. And they didn't see one, and they didn't get any cells from one?
A. That is correct.
Q. Okay. Now, let's look -- You said earlier that internists take a history in order to get clues from a patient's system -- Symptoms?
A. Yes.
Q. Now, those symptoms are not diagnostic either, correct?
A. They are not diagnostic, not specific, anyway. There are certain constellations of symptoms that are fairly common in certain types of diseases.
Q. And therefore they may suggest the disease?
A. Yes.
Q. And when they suggest the disease, they suggest further testing; isn't that right?
A. Often do, yes.
Q. Now, let's consider some of the symptoms that are suggestive of lung cancer that are part of the constellation of -- That you referred to common lung-cancer symptoms,

okay?
A. Yes.
Q. One is shortness of breath; is that correct?
A. That is a fairly common finding, yes.
Q. Another is a cough, right?
A. Yes.
Q. That's -- There's a significant number of people who present with lung cancer that have a cough; is that right?
A. That is correct.
Q. Another is unusual sounds, wheezes and rales, and

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when -- When a doctor listens to a person's lungs; is that correct?

A. Well, there I refer to a pulmonologist. I think that wheezing and coughing is so common that I don't know if I would consider those specific. But you might find those in people with lung cancer depending on where the lung cancer was at.

For example, if the tumor was obstructing a bronchus, you might hear some wheezes.

Q. Okay. Another symptom is bloody sputum; is that correct?

A. Yes.

Q. That's certainly a symptom of lung cancer?

A. It is.

Q. Now, I would like pull up a demonstrative chart.

MR. PAUL: I'm wondering if we should mark the one that the jury has looking at. I don't know that that's ever been marked.

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THE COURT: Can we do that?

MR. GROSSMAN: We'll print off a copy and mark it:

THE COURT: Next in order would be what?

THE CLERK: It would be defendant R.J. Reynolds ACX000103:

MR. GROSSMAN: The next one that we'll show would be ACX000104? The one after that.

THE CLERK: There's like three -- Hold on a second.

Yes. Three zeros, 104.

(A Pie Chart, Medical Specialties was Marked as Defendant RJR's Exhibit ACX-000103 For Identification.)

(A One-page Chart of Medical Specialties was Marked as Defendant RJR's Exhibit ACX-000104 For Identification.)

(A One-Page Chart, Adenopathy, was Marked as

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Defendant RJR's Exhibit ACX-000105 For Identification.)

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Q. BY MR. GROSSMAN: Could we bring up the symptoms chart? And this one is, for identification, marked as ACX triple zero --

MR. PAUL: Your Honor, this is the first time I've seen this.

MR. GROSSMAN: Okay, take it down.

THE COURT: Okay.

MR. PAUL: I have an objection; it's argumentative. It's not a demonstrative.

THE COURT: Approach the bench.

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(At Bench)

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THE COURT: What's the objection?

MR. PAUL: It's an argument. It looks argumentative to me. It doesn't describe anything.

MR. GROSSMAN: It's just showing where his symptoms were, what the symptoms are and what the symptoms --

THE COURT: The jury can hear all this:

The objection is use of this? Are you objecting to its admission?

MR. GROSSMAN: I'm not offering it into evidence. It's just to -- The only purpose is to help the presentation.

MR. PAUL: Yeah, but --

MR. GROSSMAN: The facts on here are not in evidence, your Honor, I believe.

THE COURT: Mr. Paul?

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MR. PAUL: Well, I believe the text is in issue. You have not shown all his symptoms, and it's argumentative to underline it and put it in red. It's your interpretation of what's going on. It's an argument document, not a demonstrative.

THE COURT: Sustained.

MR. PAUL: Okay.

(Back In Open Court)

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Q. BY MR. GROSSMAN: Doctor, you discussed simple -- We've discussed symptoms that he did not have, shortness of

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breath, blood in the sputum and coughing; is that correct?

A. That's correct.

Q. Let's turn to the symptoms that he did have on the presentation.

One of the symptoms that he said that he had as he presented to Dr. Mehta in June of 1999, was pain in his left flank and left side below his ribcage?

A. That is correct, yes.

Q. Now, that's not specific to lung cancer or suggestive of lung cancer; is that correct?

A. I would say, by itself, no. That's correct.

Q. All right. It's not typical of a presentation for lung cancer; is that correct?

A. That is correct.

Q. Let me give you what has been marked as ACX-153.

May I approach, your Honor.

THE COURT: Yes.

THE WITNESS: Thank you.

(Dr. K. Mehta's Consultation Report was Marked as Defendant RJR's Exhibit ACX-000153 For Identification.)

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Q. BY MR. GROSSMAN: Doctor, I've handed you what's been marked for identification as ACX-153, and that's a copy of the Consultation Report, dated June 17th, 1999, by Dr. Kenneth Mehta; is that correct?

A. That is correct.

Q. He is the -- He is the doctor who first saw Mr. Lucier at Santa Rosa Memorial Hospital after he

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presented in June of 1999?

A. The pulmonologist, yes.

Q. Pulmonologist, that's correct -- Is it not?

A. Yes.

Q. And he's also the doctor who -- Who staged the cancer?

A. Clinical stage, yes.

Q. Now, Dr. Mehta noted that Mr. Lucier had recently developed left-sided chest pain in his upper quadrant, left flank -- Is that the flank pain that we were just referring to?

A. Yes.

Q. And said that -- This resolved one day but then recurred again, the day of admission?

A. Yes.

Q. And the review of systems below, second line of review of the symptoms, notes no chest pain; isn't that correct?

A. That's what it says, yes.

Q. Now, in addition to these things, Dr. Mehta and Dr. Collins, in their records that you've seen noted, that Mr. Lucier said that he had had a two-year history of fevers, low-grade fevers?

A. Yes.

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Q. And history of night sweats, requiring him -- On occasion, requiring him to change his bed clothes and linens?

A. Yes.

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Q. Now, are fevers and night sweats for two years specific to any disease?

A. I don't think they're specific. I actually happened to look that up about lung cancer, and they're certainly found not uncommonly in lung cancer, but they're not specific.

Q. Well, you would say, would you not, that if there's any one disease that the symptoms sounded like, it would be lymphoma, right?

A. Well, as far as cancer goes, fever would be probably the most common finding you would see in lymphoma, specifically in people that have either Hodgkin's or non-Hodgkin's lymphoma and who have what is called 'B' symptoms, because that is one of the 'B', like in 'boy', symptoms.

But if you look at diseases in general, fever would be probably much more common in a person who had an infection, like an upper respiratory viral inspection.

Q. Yes. It would be suggestive of an infection, first of all, right?

A. That would be probably the first thing that you would think of, yes.

Q. And if you thought of cancer, it would be suggestive of lymphoma before anything; is that correct?

A. Well, I think that would probably be at the top of the list, but -- As I just said, you know, the fever is not that uncommon in lung cancer and a number of other cancers.

Q. Well, doctor, a history of two years of fever doesn't

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exclude adenocarcinoma of the lung, but it certainly doesn't suggest adenocarcinoma of the lung; isn't that right?

A. Well, I would, I guess, agree with you there. I think the two-year history of fever would suggest that this man has got some type of problem that needs investigation. And whether it turns out to be infection, fever, maybe an autoimmune disease, maybe nobody knows, but it wouldn't be something that you would immediately jump to a specific diagnosis on.

Q. Now, I think you said in -- When the plaintiffs were asking you questions, that you've seen about 10,000 cases of lung cancer?

A. About, yes.

Q. That you've reviewed?

And perhaps about 40 percent of those are adenocarcinoma?

A. Well, that's what the number is right now. You know, if I had to look that up, it would probably be between 30 to 40 percent, yes.

Q. In your history of those 10,000 cases, and that history of 3- or 4,000 adenocarcinomas of the lung, you have never seen a patient who, for a year or more, had night sweats and fever and was diagnosed as having adenocarcinoma of the lung; isn't that right?

A. That's correct. I don't recall seeing that. That's correct.

Q. Let's turn to the question of blood.

Can I have ALC-895.

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By the way, I would move into evidence ALC-153.

MR. PAUL: No objection.

THE COURT: Received.

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THE COURT ATTENDANT: What was that?

MR. GROSSMAN: I'm sorry, that was ACX-153.

(Defendant RJR's Exhibit ACX-000153, previously Marked for Identification, was received In Evidence.)

MR. GROSSMAN: May I approach the witness, your Honor.

THE COURT: Yes.

Q. BY MR. GROSSMAN: Here you are, doctor.

Doctor, I've handed you what's been marked for identification as ALC-895.

A. Okay.

Q. That's a record from Santa Rosa Memorial Hospital laboratory, from June 25th, 1999. Is that correct?

A. Um, let me see the date.

Yes. That's correct.

Q. And that's a -- Urinalysis study, a study of Mr. Lucier's urine, correct?

A. Well, what I have on the top page is actually a C.B.C. data --

Q. Look at the second page.

A. The second page. Yes, it is a urinalysis there, yes.

Q. And if you look up three lines from the bottom --

A. Okay.

Q. -- There's a -- There is something there that says "6/16/99, time 3:30," do you see that?

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A. Yes, I do.

Q. And that shows moderate blood in Mr. Lucier's urine?

A. The report that I have, I see where the "moderate" is. I don't see the word "blood" here; maybe I'm missing it. Hold on just a second.

Q. Right under "blood"?

A. Yes, I see it okay, yes.

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Now, wait a second, the -- It says "urine, blood", and then underneath that it says "negative", "N-E-G", and then where the line "6/16/99, 3:30 hours" is it says "moderate".

And then it says, the pH of the urine --

Okay, I see where it is, yeah. That would be moderate blood; that's correct.

Q. Yes.

A. The values up above are the normal values.

MR. GROSSMAN: We would offer this into evidence, your Honor.

THE COURT: Any objection?

MR. PAUL: All four pages?

MR. GROSSMAN: The second page.

MR. PAUL: I have no objection.

THE COURT: Received.

(Defendant RJR's Exhibit ACL-000895, previously Marked For Identification, was received In Evidence.)

Q. BY MR. GROSSMAN: Doctor, blood in the urine maybe is suggestive of a variety of things; is that correct?

A. Yes.

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Q. It's not diagnosed, diagnosed -- Diagnostic of any disease; isn't that correct?

A. That is correct.

Q. Now, among the things that blood in the urine might be suggestive of, would include some obstruction in the kidney area?

A. Yes.

Q. They could include cystitis; is that correct?

A. Yes.

Q. They could include prostate cancer; is that correct?

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A. Yes.
Q. Or prostate problems?
A. Yes.
Q. In a man finding blood in the urine is usually a fairly significant finding and generally requires some type of an investigation; is that correct?
A. Yes.
Q. No investigation was made here, was it?
A. Well, I didn't see any investigation -- In the records that I had. And I did -- But I didn't see also any follow-up testing, which is -- What one would have expected to have been done first.
Q. You didn't see either?
A. I didn't see either, that's correct.
Q. Now, you said that blood in the urine is consistent with a number of diseases, but it's not a symptom of cancer of the lung? Is that correct?
A. It's not a symptom of primary cancer of the lung, and

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that obviously does not involve the kidney. If there was a metastasis to the kidneys from the primary lung cancer, you could have blood in the urine, but by itself, it's not a sign of the primary lung cancer.
Q. It has nothing to do with the lung; isn't that correct?
A. That is correct.
Q. Now, these fevers that we've been talking about, fevers and night sweats and flank pain and blood in the urine don't exclude lung cancer; isn't that correct?
A. That is correct.
Q. But they certainly don't suggest lung cancer; isn't that correct?
A. That would be correct, to the point that you not

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think of lung cancer as presenting in that way.

Q. Obviously, they don't have anything to do with the lungs; is that correct?

A. Well, I wouldn't quite go that far -- Because, you know, you can get fever -- I looked up a couple of papers, and actually fever has been reported as a primary finding or primary symptom in patients with lung cancer, and between about ten to 20 percent of cases.

I didn't find any designation of how common night sweats were found. So -- Fever could definitely be seen as a primary presenting symptom in lung cancer, but it's not specific.

Q. Well, fever itself -- Lung cancer -- It's common in cases of lung cancer and other cancers for people to develop

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infections around the area of the cancer; is that correct?

A. That would be the most -- That is correct, and that would be the most common cause of fever in a person who had lung cancer, but cancer as obstructed -- Obstructed bronchus and a person had developed a post-obstructive pneumonia.

Q. And, by the way, in this case there's no evidence that Mr. Lucier ever had cancer that obstructed a bronchus or in fact that a cancer was in a bronchus; is that correct?

A. That is correct.

Q. And just to clarify this: Obviously, a long history of fever, blood in the urine and flank pain, none of those -- Obviously, all of those symptoms have nothing to do with the lungs, correct?

A. In general, I think that's correct.

I think the one symptom that you could see or the two symptoms that you could see in a person of primary lung-

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cancer presentation would be fever and weight loss. But the flank pain wouldn't be something that you would expect associated with the lung cancer, and blood in the urine wouldn't be something that you would think of being associated with lung cancer.

Q. As far as weight loss is concerned, Mr. Lucier had reported that he had lost 15 or 20 pounds; is that correct?

A. Correct.

Q. He said that he had been on a diet?

A. That is also correct.

Q. Now, in addition to -- Have you looked at

Mr. Lucier's records of weight over the years?

A. I looked at his weight during the period that he was hospitalized and up until about June of 2002.

Q. In general, his weight has fluctuated between about 200 and 235 pounds throughout his adult life; is that correct?

A. That is about correct, yes.

Q. And he has gone on and off of diets, apparently, throughout his adult life; is that correct?

A. I'm not sure about that. I know at presentation he said that he was on a diet.

Q. And finding a weight loss of 15 to 20 pounds, in addition to being consistent with having a diet, could be consistent with almost any kind of cancer; isn't that correct?

A. It could be, yes.

Q. Now, let's turn to the radiology report that you referred to earlier.

A. Okay.

Q. When Mr. Lucier presented in the hospital, Dr. Mehta ordered a variety of radiological tests, correct?

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A. He did.

Q. And on x-ray, a hypodensity was seen in the left kidney and a -- And a -- A hypodensity in left kidney, and a spot was seen in the spleen that was thought to be an infarct, right?

A. Yes.

Q. Also, there was a left renal cyst, that is, a cyst in

the kidney; is that correct?

A. Yes.

Q. None of those are symptomatic of lung cancer or suggestive of lung cancer; is that correct?

A. Correct.

Q. They may be suggestive of other diseases and perhaps other cancers; is that correct?

A. Potentially, yes.

Q. Now, he also presented with adenopathy, correct?

A. Yes.

Q. That means swollen or enlarged lymph nodes?

A. Yes.

(A brief discussion was held off the record between Mr. Grossman and Mr. Gordon.)

(A brief discussion was held off the record between Mr. Grossman and Mr. Paul.)

MR. GROSSMAN: Could we pull up the chart on adenopathy, please.

Melanie, do you have a placard?

(A brief discussion held off record between Mr. Grossman and the technician.)

Q. BY MR. GROSSMAN: Doctor, there are lymph nodes all over the body, right?

A. Yes.

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Q. In Mr. Lucier's case, there were abnormal findings on a number of lymph nodes; isn't that right?

A. There were. Yes.

Q. Going through -- There are the lymph nodes in the

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armpits -- Which are technically called what?

A. Axillary lymph nodes.

Q. And those axillary lymph nodes were found to have abnormal finding; is that correct?

A. They were slightly enlarged, yes.

Q. Then there are lymph nodes in the groin area, right?

A. Yes.

Q. The inguinal nodes?

A. Yes.

Q. And those too had abnormal findings, correct?

A. I really don't recall one way or the other.

Q. Well --

A. I don't doubt it. If you say there were abnormal findings there, that's fine.

Q. All right. Doctor, there were also swollen or enlarged lymph nodes in the neck; is that correct?

A. Neck, and I think that supraclavicular area.

Q. The supraclavicular area is over here, right?

A. Yes,

Q. That's the collarbone, right?

A. Yes.

Q. Both of these.

In addition, in the center of the chest, there were findings in three areas, correct?

A. Yes.

Q. Now, one is this, that's the pretracheal node, correct?

A. Yes.

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Q. And another is this, the subcarinal node; is that correct?
A. Yes. Although that circle is not really where it's at.
Q. Should be a little higher, right?
A. Right below the bifurcation of the trachea. Right there.
Q. This is the carina where this, the trachea, comes down here, right?
A. Yes.
Q. And here it divides into the two major bronchi, which is called the carina, right?
A. Yes.
Q. And the lymph node just below it is called the subcarinal lymph node?
A. Yeah. There's usually a bunch of them there.
Q. And, finally, there was the finding in the hilum; is that correct?
A. Yes.
Q. Now, Doctor, swelling in the groin lymph nodes is not suggestive of lung cancer, is it?
A. No.
Q. It could be suggestive of a lot of other things, though, couldn't it?
A. It could, yes.
Q. In fact, it's your -- When you looked at the chart, given the mediastinal involvement here of these lymph nodes, and the history of weight loss and fever, the first thing
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that you would have thought of was lymphoma, systemic lymphoma; isn't that right?
A. Yes.

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Q. Also, the groin -- Swelling, or enlargement of lymph nodes could suggest infection; is that correct?
A. Yes.
Q. As far as the swelling in the armpits, the lymph nodes in the armpits, that too could be suggestive of a number of things?
A. Yes.
Q. It could be suggestive of infection?
A. Yes.
Q. It could be suggestive of breast cancer?
A. Um, potentially, yes.
Q. It's not a common finding in lung cancer; isn't that correct?
A. Not a common finding, no.
Q. You're familiar with the radiology reports in this case, but you haven't reviewed the radiology yourself; isn't that right?
A. Yes.
Q. And the radiology reports do not identify any growth in Mr. Lucier's lung; isn't that correct.
A. Well, I guess that's how you -- Where I think maybe you and I would maybe disagree. I think it kind of depends on how you define "radiology reports".

The term hilar is -- As I think I explained last Thursday -- Is a region where the vessels, the air tubes,

nerves, a few other structures enter the lung.

And a hilar mass, to my way of thinking, usually is a mass in that region of the anatomy of the lung, and frequently involves lung and lymph nodes.

Now, I'm not a radiologist, and I would defer to a radiologist or a pulmonologist, like Dr. Horn, with respect to his or her interpretation of how they would -- What that

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would mean. But usually when -- A clinician says "hilar mass", they're usually applying some type of process that is occurring in the region of the hilum of the lung that could involve lymph nodes and/or lung tissue.

Q. Doctor, you've worked with Dr. Horn in a number of cases; is that correct?

A. I work -- I've never worked with him directly in a number of cases. It turns out that he and I have both frequently reviewed asbestos-related cases. I see his report; he sees my report.

Q. You've never worked with him in a clinical setting; is that correct?

A. No, not at a hospital setting, no.

Q. You've never -- You've never seen his work in any respect in terms of -- You've never made an assessments in a clinical setting of the quality of his work; is that correct?

A. (No Response)

Q. Because you've never worked with him --

A. Well, I obviously wouldn't be in a position to do that. What I have seen about Dr. Horn is some of his

reports on patients that he saw as a primary-care physician, specifically as a pulmonologist that I thought were of excellent quality.

Q. Doctor, there are no medical records by any radiologist in this case in which a radiologist said that he or she said they saw cancer or a -- Or an infiltrate in Mr. Lucier's lungs themselves; is that correct?

A. I'm sure that's correct, but I'm not sure if a radiologist ever asked a question if a hilar mass involved lung parenchymal tissue.

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Q. Let's talk about the hilum of the lungs for a second.
A. Okay.
Q. The hilum is not a part of the lung; isn't that correct?
A. It's not an anatomic part of the lung. It's the location, like I said before, where the vessels, bronchial tubes, lymphatics, nerves, enter the lung.
Q. It's separate from the lungs and separate from the mediastinum; isn't that correct?
A. Well, it's an anatomic region. I don't think of it as actually being a specific tissue. It's an anatomic region where there are a number of different structures located: Lymph nodes, vessels, air tubes, nerves, et cetera.
Q. It's separate from the lung, correct?
A. Well, it's separate from the lung, but yet it isn't separate from the lung. It's not a precise tissue specimen. It is an area where certain things enter the lung. But it's

intimately associated with adjacent lung tissue.
Q. Now, radiologic -- which is to say x-ray -- evidence of consolidation around the hilum is not a diagnosis of any disease; isn't that correct?
A. I don't think by itself it would be absolutely diagnostic of any disease, because, as we have said, radiology isn't an absolute diagnostic type of science. But it certainly would raise the possibility of a significant disease process.
THE COURT: Yes.
MR. GROSSMAN: Doctor -- Your Honor, may I approach?
THE COURT: Yes.
THE WITNESS: Thank you.
MR. GROSSMAN: I may have given you more than one

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copy. Let me just -- Yes.

THE WITNESS: Thank you.

Q. BY MR. GROSSMAN: Doctor, I've handed you what is marked as ALC-001003, which was previously admitted.

And that's a consultation report of Dr. Collins; is that correct?

A. Yes.

Q. She's an oncologist who looked at Mr. Lucier; is that correct?

A. Yes.

Q. And if you'll note with me, five lines up from the bottom -- And I'll put this on the Elmo. If I may.

The area of yellow is: "Evaluation so far has included a chest x-ray, June 16th, that showed

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a right hilar mediastinal adenopathy, a CT scan of the abdomen and pelvis which showed hypodensity in the spleen, most likely splenic infarcts, small hypodensity in the posterior left kidney that may be a small infarct, and a left renal cyst. A CT scan of the chest showed a three-by-four centimeters right hilar mass with extensive pretracheal and subcarinal adenopathy. No primary lung lesions."

Do you see that?

A. Yes, right.

Q. No primary lung lesion means something was shown on the radiology that indicated a mass in the lung itself; is that correct?

A. I can't answer that yes or no. And the reason I can't answer it yes or no is that I think what she's really implying is that there was no separate mass seen in the

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parenchyma of the lungs that she could isolate from the right hilum.

But what I don't think she's saying in there necessarily that that would exclude a lung cancer in the right hilar area.

Q. But it doesn't exclude a lung cancer, doesn't show, though, a lung cancer?

A. It shouldn't show a separate, spiculated mass in the lung tissue.

Q. Doesn't -- It definitely doesn't show a separate spiculated mass in the lung tissue, and indeed it doesn't

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show a separate mass in the lung tissue at all?

A. Well, that's where you get into, I think, the controversy. That's where the radiologist -- I think you would have to ask one of them.

Q. Okay, okay.

A. But I would think that somebody who said that there was a right hilar mass, that could well mean the mass --

Q. Move to strike as speculative.

THE COURT: Denied?

THE WITNESS: -- That was -- A mass was definitely in the lung tissue. I don't think that you could rule that out because there was a separate mass away from the hilum.

Q. BY MR. GROSSMAN: You would defer to a radiologist?

A. Well, to a radiologist or a pulmonologist, like Dr. Horn or whoever else studies those things all the time.

Q. You haven't looked at the x-rays, correct?

A. I've only looked at the reports.

THE COURT: We'll take a ten-minute recess. Please don't discuss the case.

(A mid-morning break was taken at 10:00 am.)

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THE COURT: Mr. Grossman.

MR. GROSSMAN: Thank you very much, your Honor.

Q. Doctor, when we took the break, we were talking about radiographics, which is to say x-ray images of what was referred to as a mass in the hilar region?

A. Yes.

Q. Now, the term "mass" itself is not specific; is that

right?

A. That is correct, yes.

Q. Um, what's referred to as a mass in a hilar region could be cancer or could not, right?

A. That is correct.

Q. It could be an infection, right?

A. Right.

Q. It could be a cancer with an infection next to it; is that correct?

A. Yes.

Q. But it's not specific to or diagnostic of any specific disease, right?

A. Radiographically that's correct, yes.

Q. After those x-rays were performed, and reviewed, Mr. Lucier had a bronchoscopy?

A. Yes.

Q. And that was performed by Dr. Kenneth Lamb?

A. That's correct, yes.

Q. Who's a pulmonology, who's in practice with Dr. Mehta?

A. Yes.

Q. And in the bronchoscopy, a camera, a tiny camera is inserted down the windpipe into the lungs; is that correct?

A. Yes.

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Q. Dr. Lamb made a record of what he saw on the lungs; isn't that right?

A. Yes.

Q. And he wrote that he saw nothing, nothing unusual in

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Mr. Lucier's lungs; isn't that correct?

A. That is correct. Yes.

Q. Going down the windpipe and into the bronchi and into the segments of the bronchi, he saw no evidence of any changes in the lungs due to smoking; isn't that correct?

A. That is correct.

Q. He saw no redness; is that correct?

A. I don't recall him saying anything about redness.

Q. He saw no whiteness; is that correct?

A. Yes.

Q. Now, redness and whiteness would be evidence of what's referred to as hyperplasia and metaplasia; is that correct?

A. Well, the whiteness usually would be metaplasia; the redness may or may not be hyperplasia. It depends on how much inflammation there could be. You could have redness with hyperplasia.

Q. And he didn't see either of those?

A. That's correct.

Q. You're familiar with a report of a famous doctor called Dr. Auerbach; is that correct?

A. Yes.

Q. He was a pathologist working at the Veterans Hospital in Newark, New Jersey for many years?

A. Correct.

Q. And he wrote up his reports in the Journal of National Cancer Institute and other peer-review journals on the dissection of lungs on people with lung cancer, correct?

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A. Yes.
Q. Working in that Veterans Hospital, he had thousands of patients with lung cancer?
A. I'm sure he did.
Q. And he reported on the dissection not only of lungs of people who had lung cancer, but also of people who had been smokers for many years through the war, and for decades after, and what he saw in the lungs of those smokers?
A. Yes.
Q. And he reported that in the lungs of smokers who had not been diagnosed with lung cancer, he -- He often saw metaplasia and hyperplasia; is that correct?
A. Yes.
Q. And he took those to be precursors of cancer; is that correct?
A. Yes.
Q. And those reports were very famous and were incorporated in many state and federal reports, right?
A. They were.
Q. Now, he also sometimes found carcinoma in situ, cancer in situ; is that correct?
A. Yes.
Q. That means just the little cell that has not spread?
A. It means that the tumor or the cancer is confined to the epithelial tissue from which it originated without any inflation, or metastases.
Q. Now, he found the changes that we've been referring to as metaplasia and hyperplasia were very, very common in
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people who were diagnosed with cancer?
A. (No Response)
Q. Of the lungs?

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A. Yes.
Q. But just to clarify, nothing of that kind was found in Mr. Lucier's lung on the bronchoscopy; is that correct?
A. Not on the biopsies that were taken, yes.
Q. And nothing was found visually of that kind; is that correct?
A. That is correct.
Q. Now, you referred to the biopsies, brain biopsies. Mr. Lucier, in addition to having a biopsy snipping from the bronchus area by Dr. Lamb also had cytology?
A. Yes.
Q. And we referred to them briefly before. Those were washings taken from the airways of the lungs?
A. Yes.
Q. And those also had no cancer cells; isn't that correct?
A. That is correct.
Q. Now, in March of 2001, about nine months after Mr. Lucier presented in -- In Santa Rosa, Mr. Lucier was living in Phoenix; isn't that correct?
A. Yes.
MR. PAUL: I object. I think he misstated. You said March of 2001.
MR. GROSSMAN: Thank you. March of 2000?
THE WITNESS: Yeah, I should have caught that; right.

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Q. BY MR. GROSSMAN: Mr. Lucier was living in Phoenix?
A. Right.
Q. And that was nine months after he presented to Dr. Kenneth Mehta, correct?
A. Yes.
MR. GROSSMAN: May I have ALC-47, please. (sic)
(A Fine-Needle Aspirate Report was Marked as

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Defendant RJR's Exhibit ALC-000047 For Identification.)

MR. GROSSMAN: I'll just -- If I may approach, your Honor.

THE COURT: All right.

Q. BY MR. GROSSMAN: Doctor, I've handed you what's been marked for identification as Defendant's Exhibit ALC-847. We would offer this in evidence.

MR. PAUL: I have no objection.

THE COURT: Received.

(Defendant RJR's Exhibit ALC-000047, previously Marked for Identification, was received In Evidence.)

Q. BY MR. GROSSMAN: Doctor, this is a copy of a medical report from the Desert Samaritan Medical Center; is that correct?

A. Yes.

Q. You've seen it before?

A. I have.

Q. And it's a report on a CT-guided biopsy of the right lung, correct?

A. Right.

Q. Now, let's describe what this refers to.

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This isn't the bronchoscopy, right?

A. That is correct, yes.

Q. This is what's sometimes referred to as a transdermal biopsy?

A. Yes. It's through the skin, yes.

Q. Where a needle is inserted through the skin into the lung itself, right?

A. Yes.

Q. And the placement of the needle is guided by an x-ray, in fact, by a CAT scan; is that correct?

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A. Yes.
Q. Now, this was an effort to take a biopsy from the lung of what was suspected to be tumorous tissue in the lung; is that correct?
A. I think that's what the suspicion was. I think it was an infiltrated density. And it goes back to that question you asked me before that any type of density could be a variety of things, but obviously in Mr. Lucier they were concerned about cancer.
Q. Yes. And they saw a density or a pleural mass on x-ray, and they decided to take a biopsy of it through -- Right through the chest wall into the lung, correct?
A. I thought it was posterior; I think they probably took it from the back, actually.
Q. But that's what they did; is that correct?
A. Yes, um-hum.
Q. It's hard to get my hand around to the back to show it that way.

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A. I sympathize with that myself.
Q. And it's the right lung that they looked at; is that correct?
A. Yes um-hum.
Q. And they suspected that it might be a tumor?
A. Yes.
Q. But a mass may or may not be a tumor as revealed on an x-ray, correct?
A. That's correct.
Q. Now, the -- They took the material from the lung, in the needle, and then, it was reviewed by a pathologist; is that correct?
A. Yes.
Q. And you're familiar with the report of the

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pathologist who said that the features were not suggestive of carcinoma, not suggestive of cancer; is that correct?

A. I do recall that, yes.

Q. And so there have been, in essence, three tests of a pathological nature to find cancer in Mr. Lucier's lungs, the snippings during the bronchoscopy, the cytology, the washing during the bronchoscopy, and then the transdermal biopsy, the needle through the back right into the lung; is that correct?

A. That is -- That's correct. But it was my understanding that this -- This procedure here was really looking at an infiltrate that was right below the pleura, that really was not behind the hilar mass that was biopsied.

Q. It was the right lung itself?

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A. It was a right subpleural mass, and as far as the pathology report goes, I thought there was a question about whether they were atypical cells, or we wondered whether they were epithelial cells. And I think I stated that in my deposition, meaning that they really didn't get into the lung or they were some other type of cells. But they did not make a diagnosis of malignancy.

Q. In fact, they said that they were not suggestive of malignancy; isn't that correct?

A. That's correct.

Q. And they did not suggest cancer?

A. Yes. But they were not normal cells.

Q. And all three efforts to get cells from Mr. Lucier's lung produced results that were not suggestive of cancer; isn't that correct?

A. Well, I would agree with you that they -- The transbronchial biopsy did not show any cancer, the right

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bronchial washings did not show any cancer, and the CT-guided fine-needle aspiration posterior does not -- Right spinal infiltrate does not show any cancer.

I would agree with you there.

Q. And those are the only cell materials ever taken out of Mr. Lucier's lung or bronchi themselves; isn't that correct?

A. That is correct, yes.

Q. Now, later a mediastinoscopy was performed, not amounted the -- After the bronchoscopy, a mediastinoscopy was performed, right?

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A. It was, yes.

Q. And that's where the -- Again, a camera, was inserted this time through the neck down into the mediastinum, into the cavity between the lungs, correct?

A. It was right in below the nod, notch of the sternum, N-O-T-C-H, of the sternum. And there's a tissue -- I've actually been involved in several of these. There's a nice tissue plane that you can get right below the sternum and dissect out to fat tissue. And you can see the lymph nodes, and you can biopsy certain lymph nodes.

The only thing that you have to do is make sure that you don't hit one those big vessels, or you're in trouble.

Q. Now that's of the mediastinum through the lungs, correct?

A. Correct.

Q. Could we call up the demonstrative aid on adenopathy, Melanie.

Thank you very much.

Doctor, the report of the surgeon who performed mediastinoscopy reports that he obtained tissue from is the pretracheal node, which was this one; is that correct?

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A. Yes, um-hum.
Q. There is no report of a biopsy either of the subcarinal node or the hilar area; is that correct?
A. That is correct.
Q. Now -- Thank you, Melanie.
The doctor who performed the mediastinoscopy took a snipping from that pretracheal node and sent it down to the
5935
pathologist; is that correct?
A. Yes.
Q. And the pathologist who read it and who read the slide was Dr. Leissring, correct?
A. Yes.
Q. And he diagnosed, "Metastatic large-cell carcinoma with mucicarmine positivity, consistent with poorly differentiated adenocarcinoma," correct?
A. Yes.
Q. I believe that -- Has that been --
Could I have a copy of that.
This is ALC-846. (sic)
MR. GORDON: -- -.1.
MR. GROSSMAN: -- -.1. Thank you.
Q. And, doctor, I'll just put this, if I may, on the Elmo here.
A. Okay.
Q. And here his biopsy of pretracheal lymph node: "Metastatic large-cell carcinoma with mucicarmine positivity consistent with poorly differentiated adenocarcinoma."
Now, you said on your direct testimony that you agreed that this was -- Was cancer, and it's your diagnosis of adenocarcinoma -- You would not refer to it this way; is that correct?

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A. Yeah. But I don't have any great argument with that. I think he has the information there. And that is that it's poorly differentiated adenocarcinoma, and, if you remember the criteria for adenocarcinoma, it's either a gland or

tubule formation or mucus production. And that criteria is met there with the positive mucicarmine thing.

Q. Mucicarmine stain is one of the stains that's put on the slides that tests for mucus; isn't that correct?

A. Correct.

Q. That test was positive, correct?

A. Yes.

Q. Okay. Thank you.

Now, doctor --

THE COURT: Is that in evidence? Is that exhibit in evidence?

MR. GROSSMAN: Yes, it is. It was previously entered into evidence.

THE COURT: Everyone agrees with that?

THE CLERK: I didn't show it.

MR. PAUL: If it's not. I have no objection.

THE COURT: Okay, it will be received.

(Reporter's Note: See page 5859 of 12-06-02 Friday transcript.).

Q. BY MR. GROSSMAN: Now, you agree with Dr. Leissring that this was metastatic cancer, correct?

A. Yes.

Q. And sometimes you can find a biopsy that goes right into the primary mediastinum?

A. Correct.

Q. But this was not one of them?

A. Well, it biopsied an enlargement of a lymph node, and if it had turned out to be lymphoma, it would have been a

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primary lymphoma in site, or I should say a lymphoma involving a lymph node where the lymphoma begins.

But the fact that it was not a lymphoma meant that it was metastatic from another site.

Q. Okay. You agree, though, that this was metastatic?

A. Correct.

Q. You agree that it was adenocarcinoma?

A. Yes.

Q. And you agreed that it was mucus-producing?

A. Yes.

Q. You said earlier that in providing information to treaters, to internists and others, it's important to give them as much information as possible, to help them in their determination as to whether there should be further tests or -- Or what should be done with the patient; is that correct?

A. Yes.

Q. Now, on your direct examination, you showed the jury a number of slides showing signet-ring formation in this cancer?

A. Signet-ring cancer cells, yes.

Q. And, you've read the reviews, the reports of Dr. Brantley and Dr. Barsky, you noted earlier?

A. Yes.

Q. Those were the consultants for Philip Morris and R.J. Reynolds?

A. Correct.

Q. Pathological consultants?

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A. Yes.

Q. And both of them also found signet rings in these mediastinum samples, correct?

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A. Yes.
Q. Dr. Leissring didn't note that, correct?
A. He didn't note it, that's correct. Yes.
Q. And so the treaters in Santa Rosa, and indeed the treaters for years thereafter, had nothing in the records indicating that there were signet rings found in the -- In the cancer cells from the pretracheal node; is that correct?
A. As far as I know, yes.
Q. We'll come to the significance of signet rings in a moment.
But let's talk for a moment about the -- About adenocarcinoma generally.
And by the way, you said last Thursday, that -- Talking about the slides again, looking at those slides from the mediastinum, you couldn't tell whether Mr. Lucier was a smoker or not?
A. That is correct.
Q. You couldn't tell what was involved in the causation of the cancer?
MR. PAUL: Your Honor, this has been asked and answered.
MR. GROSSMAN: It's just a predicate.
THE COURT: Overruled.
THE WITNESS: That's also correct.
Q. BY MR. GROSSMAN: And what you do as a pathologist is

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to look at slides?
A. That's one of the things --
Q. And at cytologies and autopsies?
A. That's one of the things I do, yes.
Q. Now, doctor, adenocarcinoma is a type of cancer that can arise in many organs; isn't that correct?
A. Yes.

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Q. It's a very common type of tumor?
A. Yes.
MR. GROSSMAN: What's the next number that we may use?
THE CLERK: ACX-000106.
(A Chart of a Human Body was Marked as Defendant RJR's Exhibit ACX-0000106 For Identification.)
Q. BY MR. GROSSMAN: Could we have the same or -- Some organs where adenocarcinoma may start.
Doctor, I show you what's been marked for identification as ACX-triple zero-106, which is a chart of a body showing where some organs were where adenocarcinoma may start.
And you would agree, doctor, that adenocarcinoma can start in the prostate?
A. Yes.
Q. The large and small intestine?
A. Yes.
Q. By the way, the large intestine is sometimes referred to as the colon, correct?
A. Yes.

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Q. It can also start in the anus, which is not pictured here; is that correct?
A. The anus usually is squamous carcinoma.
Q. But occasionally adenocarcinoma?
A. There are some sub-squamous anal glands where it can start, yes.
Q. And it can also start in the kidney?
A. Yes.
Q. It can start in the stomach?
A. Yes.

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Q. By the way, cancer of the digestive tract, including the stomach and the intestines, is most often adenocarcinoma, isn't it?

A. Yes.

Q. It can start in the spleen?

A. No.

Q. It cannot?

A. No. There's no primary organ in the spleen from which an adenocarcinoma can arise from.

Q. I thought in your testimony earlier that you had said so?

A. I don't think so.

Q. It can start in the breast?

A. Yes.

Q. It can start in the lung?

A. Yes.

Q. It can start at the gastroesophageal function, which is the area where the esophagus meets the stomach; is that

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correct?

A. Yes.

Q. It can start in the sinus; is that correct?

A. Yes.

Q. It can also come from the germ cells, the midline of the body; is that correct?

A. The germ cells can differentiate into adenocarcinomas, yes.

Q. Now, no cancer tissue, you've testified, was ever taken from the plaintiff's lung, but even if it were, it would be important to -- To determine whether it was primary or metastatic. Isn't that correct?

A. Fair enough.

Q. The lung is not only a common site of primary cancer,

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but it's also the most common site in the body for metastases; isn't that right?

A. That is correct.

Q. Any malignancy, any cancer can spread to the lungs?

A. That would probably be true -- Excuse me -- With the exception of primary brain cancer, which wouldn't spread there, unless it had been first operated on.

Q. Metastatic neoplasms, that is, metastatic growth to the lungs, are the most common kind of tumor found in the lungs; isn't that right?

A. That is correct.

Q. Fifty percent of all cancers end up metastasizing to the lung; isn't that right?

A. Yes.

Q. And as you've written in your book, metastatic carcinoma should always be considered in the differential diagnosis of any lung cancer; isn't that right?

A. That is correct.

Q. Now, in addition to being the most common site of metastasis for cancer generally, the lung is the most common site of metastasis for adenocarcinoma; isn't that right?

A. Yes.

Q. Adenocarcinomas far outnumber all other solid tumors that metastasize to the lungs, right?

A. That is correct.

Q. Virtually anything, any malignancy, any cancer can spread to the lungs, but most commonly when such cancers arise, such metastases arise from the breast, the colon, the stomach, the pancreas, the kidney, the prostate, the liver, and the male and female genital tracts; is that correct?

A. I think that's correct, yes.

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Q. Roughly in that order you've written; is that correct?

A. Probably in about that order, yes.

Q. Indeed, cancer of the breast very frequently metastasizes and is often considered in the differential diagnosis of metastatic adenocarcinoma of unknown primary origin; isn't that right?

A. It certainly is in a lot of sites.

What I've seen myself is, as a practicing pathologist, is that most of the cases of metastatic breast cancer we see are in individuals who have already had a well

established diagnosis of breast cancer, and it metastasizes. Therefore, it's already metastasized to the axillary lymph nodes.

Q. The axillary nodes are the nodes in the armpits, right?

A. Right.

Q. Where Mr. Lucier had a finding of abnormal, an abnormal finding in those nodes; is that correct?

A. They were stated to be enlarged, yes.

Q. Now, and they were never biopsied?

A. No.

Q. Now, Doctor, the relationship between adenocarcinoma and smoking depends in part on the site of primary origin; isn't that right?

A. That is correct.

Q. For example, there's no relationship between adenocarcinoma of the breast and smoking; isn't that right?

A. No proven relationship at this point in time, although that's something that's being investigated.

Q. And it's been tested many times, and none has ever been found, right?

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A. That's correct, yes.
Q. Same thing with the colon; isn't that right?
A. Well, the colon; there's one study that's been published, maybe two studies of the colon showing increased incidence, but it's a relatively small one.
Q. Doctor, you've seen graphs, have you not, that show -- we can take this down for a moment, Melanie -- That

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show a history over time of smoking among men in the country going up like this?
A. As far as the incidents of lung cancer?
Q. First of smoking?
A. Oh, yes.
Q. Smoking increasing and going like this?
A. Um-hum.
Q. And then of lung cancer, 20 or 30 years later, going on a similar trend? You've seen those?
A. That is correct, yes.
Q. You've also seen charts showing what's happened in stomach cancer, in cancer of the liver, in cancer of the breast, in cancer of the various other organs of the body?
A. Yes.
Q. And at the same time that smoking was going up, those other kinds of cancers have been flat or, in the case of stomach cancer, going down; is that correct?
A. That is correct. The one that probably would have gone up probably would have been kidney cancer.
Q. But that has not gone up?
A. Actually, it has gone up.
Q. Not very much?
A. Not very much.
Q. Now, doctor, there's no relationship between

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adenocarcinoma of the germ cells and smoking either; isn't that correct:

A. Not that I'm aware of, that's correct.

Q. Now, when you testified on direct, you mentioned four

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subtypes of adenocarcinoma of the lungs; is that correct?

A. Histologic sub-sites.

Q. Histologic sub-sites as seen under the microscope, correct?

A. Yes.

Q. You mentioned acinar or acinar? (pronunciation)

A. Yes.

Q. You mentioned a columnar kind of structure; isn't that correct?

A. Well, that would be in the acinar group, or theoretically it could also be in what's called the bronchioloalveolar group.

Q. I think you referred to -- acinar and then to bronchioloalveolar carcinoma II, and to signet-ring carcinoma III, correct?

A. Could be, yes.

Q. And fourth, I think you referred to solid tumors?

A. Right, solid tumor that either showed mucus production or other areas where the tumor was showing gland formation.

Q. There was a papillary --

A. There is. There is a papillary tumor that sometimes is grouped in the bronchioloalveolar pattern, but the Japanese, for example, have put that as a distinct entity.

Q. So depending on who you turn to as an authority, there may be four or five distinct entities of adenocarcinoma of the lung, correct?

A. Yes.

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Q. Now, without getting into these subtypes yet, adenocarcinoma is a major type of primary lung cancer that is least associated with smoking; isn't that right?
A. I think that is correct, with the understanding that, even though it is the least associated, it still has a very high association, specifically about 90 percent.
Q. Well, we'll get into the association in a minute.
A. All right.
Q. Ninety percent is not an association. An association is normally determined by relative risk; is that correct?
A. Well, yes. But, I mean, you can look at data, for example, on people who have lung cancer and see how many of them who had a certain type of lung cancer were cigarette smokers.
Q. There's a scientific method of epidemiology; is that correct?
A. There is, yes.
Q. In which people are matched, people with a disease are matched against controls; isn't that correct?
A. That is correct.
Q. You look at people of the same age, and with similar background that you think might affect the disease, you try to match them, and you try to determine how much more common the disease is between the exposed, as opposed to the non-exposed?
A. That's right.
Q. That's where the ratios --
A. Yes.
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Q. When you referred to a percentage of people who have lung cancer, for example, on Thursday you testified to Mr. Paul's question, that more than 90 percent of the people

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who you see in Bremerton with lung cancer are smokers, correct?

A. Right.

Q. Um-hum?

A. Um-hum.

Q. But of course, you also testified that the majority of people in Bremerton are smokers, right?

A. Sure.

Q. So that doesn't tell you very much, without determining what the odds ratio or relative risk is; is that correct?

A. That would be correct, but, see, that's what I know in Bremerton, though, because I know how it's compared to other 13 Western Washington counties, and I know how it's compared to other parts of the United States, because we're in the SEER, S-E-E-R, program.

Q. Smoking statistics vary between Bremerton and the rest of the country as well; isn't that correct?

A. Yeah. There's a little variation. There's really not much variation between what you see as far as lung cancer incidence and smoking.

Q. The smoking, the amount of smoking in Bremerton varies with the rest of the country; is that correct?

A. There's always going to be some variation, yes.

Q. Now, adenocarcinoma is the most common form of lung

cancer found in nonsmokers; isn't that correct?

A. That is correct.

Q. And so when you find a -- Doctor, do you remember there was a Dr. Timmons at the University of Wisconsin, a very famous doctor, who won the Nobel Prize?

A. I can't say I do, but that doesn't mean anything. No disrespect to him.

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Q. Or other famous people who are nonsmokers who died of lung cancer, say Andy Kaufman, it's almost always adenocarcinoma; is that correct?
A. That's correct.
Q. Nobody knows -- Adenocarcinoma is the most common kind of lung cancer in people who have never smoked, correct?
A. Well, I think there are some ideas. Where I see it most frequently are in nonsmoking women versus men, and you also see a symptom published recently, which is that there probably is a genetic factor, in that there's a higher incidence of lung cancer in the families of those individuals.
Q. Not only lung cancer, but cancer generally; is that correct?
A. Cancer in general, yes.
Q. Um, most common type of cancer that you've seen in individuals who had no known cause of lung cancer, no exposures to any known cause of lung cancer, would be adenocarcinoma; would that be correct?
A. That is correct.

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Q. Now, you're familiar with the World Health Organization classification book on cancers of the lung, aren't you?
A. Yes.
Q. You helped to write parts of it, right?
A. I did.
Q. And it said, that adenocarcinoma is associated with cigarette smoking but less strongly than the other major histological science, right?
A. Yes.

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Q. And you agree with that?
A. Yes.
Q. For example, the relative risk of small-cell carcinoma -- Small-cell carcinoma associated with cigarette smoking is, according to your testimony, in the ten to 20 range; is that correct?
A. Versus a nonsmoker, yes.
Q. Yes. That means that a smoker is ten to 20 times more likely to get small-cell cancer of the lung than a person who never smoked?
A. That is correct.
Q. Similarly, for squamous-cell carcinoma it's your testimony that the relative risk is in the ten to 20 range; is that correct?
A. Yes.
Q. That means that a person who -- Who smokes cigarettes is ten to 20 times more likely -- Smokes a pack a day -- Is ten to 20 times more likely to get lung cancer than a person who's never smoked, correct?

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A. Yes.
Q. It's also your testimony that for adenocarcinoma, the relative risk associated with smoking is much less, in the range of two to five. Is that correct?
A. I don't recall saying that. Um -- I --
Q. Well, doctor, perhaps I can remind you.
A. Okay, I -- I would like to see that.
MR. GROSSMAN: Okay. Gary, this is going to be from the Gilboy deposition, and it's going to be from -- On page 134, line 17 to 19.
MR. PAUL: What date?
MR. GROSSMAN: March 28, 1995. That' right.
There's one.

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MR. PAUL: There's two.

Q. BY MR. GROSSMAN: Doctor, I understand that you have a copy.

I would like to direct your attention then to page 134 of the Gilboy deposition, your deposition in the Gilboy case --

A. Okay.

Q. -- Dated March 28th, 1995.

A. Okay.

MR. GROSSMAN: Let me put this on the Elmo.

THE WITNESS: What was the page again?

MR. GROSSMAN: It's page 134.

I'll zoom this up a little bit.

Q. Doctor, do you recall I took your deposition in the

Gilboy case?

A. I recall that, yes.

Q. And you testified at that trial?

A. I did. Yes.

Q. And in your deposition, you were asked: "What is the reported range of relative risks for adenocarcinoma of the lung from cigarette smoking?"

And you said, "Much less. Just off the top of my head, it's two to five."

A. Okay, let me just look at that for a second, please.

Q. Sure, be my guest.

A. Okay. I'm sorry.

Q. Okay. Now, doctor, you're familiar as well with literature that suggests that smoking is not related to adenocarcinoma of the lung; isn't that correct?

A. There is some literature out that that would say that, especially in some groups of women especially.

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Q. In fact, some researchers have found no statistical association at all between adenocarcinoma and smoking after doing matched pairs; isn't that correct?

A. That is true.

Q. So it's fair to say that the smoking linked with adenocarcinoma has been disputed by some, and some investigators have found an association, while others have not?

A. I think that's a distortion of what has really been found at this point in time today. I mean, that might have been -- Certainly, there have been studies that have shown

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no increase in adenocarcinoma in some groups that have been studied, but if you still look at all the people at this point in time, adenocarcinoma is associated with cigarette smoking in at least 90 percent of the cases. And I just did a ten-year study of Bremerton what we see in Bremerton --

Q. Doctor, if I may. That's not a peer-reviewed study; is that correct?

A. Well, not from Bremerton, but the stuff that is peer-reviewed, and if you look at the latest issue of the American Journal of Respiratory Disease in Critical Care Medicine, they state that in every type of lung cancer with respect to cell type is strongly associated with cigarette smoking.

Q. Doctor, in your testimony in Gilboy -- This is at page 138, line 24, through 139, line three --

A. Yes.

Q. -- I ask you the same question.

"Now, Doctor, it's fair to say that the smoking linked with adenocarcinoma has been disputed, and some investigators have found an association and others have not. Is that correct?"

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And you said, "Fair enough." Correct?

A. Well, that is fair enough. There has been. But I still would say, at this point in time, if you were to ask the Surgeon General or --

THE COURT: Please, just respond to the question, please.

THE WITNESS: Okay.

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THE COURT: Next question.

Q. BY MR. GROSSMAN: Now, you know a lung pathologist named Dr. Brian Corrin; is that correct?

A. I do.

Q. You and Dr. Corrin have worked on several matters; isn't that true?

A. Well, we have.

Q. Journal of World Health Organization classification that you just talked about?

A. Yes.

Q. You respect Dr. Corrin and his abilities?

A. I do.

Q. You respect the work he's done?

A. That is correct.

Q. Dr. Corrin is editor of a book called Respiratory Medicine, right?

A. Yes.

Q. You're familiar with that, aren't you?

A. Yes.

Q. There's a chapter in the book called "Bronchial Tumors", right?

A. I don't recall that one way or the other, but I wouldn't dispute that.

MR. GROSSMAN: Doctor -- Do we have a copy of this

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page?

MR. GORDON: Yes.

Q. BY MR. GROSSMAN: May I approach the witness, your Honor.

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THE COURT: Yes.

Q. BY MR. GROSSMAN: Doctor, I've handed you what's been marked for identification as ACX-000043, which is a chapter on bronchial tumors, from Respiratory Medicine, edited by Dr. Corrin, correct?

A. Well, edited by several people, including Dr. Corrin.

Q. Including Dr. Corrin; is that correct?

A. Yes, um-hum.

Q. Correct?

A. Yes.

Q. Can you turn with me to page 925?

A. All right.

Q. Do you see under etiological? "Etiological", that means causative factors, tobacco?

A. Yes.

Q. And about ten lines down, it says, "adenocarcinoma of the lung has been claimed to have some association with smoking, although most of the data do not support this"?

A. Okay.

Q. Okay. Now, doctor, it's fair to say that you have not personally done epidemiological research in the peer-reviewed literature on smoking and health; is that correct?

A. I've not done any research along those areas that has been published by myself. The lung-cancer study group that I was involved with for 12 years did studies on that that were published.

Q. You're not an epidemiologist?

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A. I am not an epidemiologist, no.
Q. And you haven't published epidemiological work on smoking and health; is that correct?
A. That's fair, I have not.
Q. It's also fair to say that you have done no toxicological research on smoking and health; is that correct?
A. That's correct.
Q. So to the extent that you have opinions on the relationship between smoking and cancer, those opinions are based primarily on the writings of others; isn't that right?
A. I actually would look at it exactly the opposite.
I would say that its basis is mostly on my own experience as a practicing pathologist based on what I see in hospitals. I certainly do rely on others with respect to what they have stated in the literature concerning lung cancer and what they have found as far as causative agents, et cetera, but, you know, I've had a lot of experience with my own practice as a pathologist.
Q. Insofar as the scientific method is concerned, on statistics, for example, on epidemiology --
A. Okay.
Q. -- Or on toxicology, you necessarily rely on the works of others?
A. That's true.
Q. Doctor, let's turn for a moment -- We're talking now in adenocarcinoma, only about adenocarcinoma of the lungs. And it's based on the assumption for the moment, that Mr.
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Lucier had adenocarc- -- Adenocarcinoma in the lung, correct?
A. Correct. Yes.

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Q. And adenocarcinoma of other organs would have other etiological factors, right?

A. They would, yes.

Q. Let's turn for a moment to causation generally. And then we'll go to whether specific diseases, specific individual diseases can be attributed to an exposure, okay?

A. All right.

Q. Now, one factor that's considered in determining whether an exposure may be a cause of -- Of a disease in a population generally, as opposed to in an individual, is epidemiology, right?

A. Yes.

Q. That's statistics, right?

A. Yes.

Q. Pursuant to the scientific method used in epidemiology, right?

A. Yes.

Q. You've written textbooks?

A. Pathology of Lung Disease, yes.

Q. Pathology of Lung Disease.

And do you recall at your deposition, well, a deposition that we conducted in the Gilboy case, I read to you from that textbook.

I could read the same part now, but perhaps you recall this answer.

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Doctor, you wrote, "Because relatively few people who develop lung cancer are an -- exposed to an occupation associated with carcinogens, and since only about ten percent of cigarette smokers develop lung cancer, other unknown factors appear operative"?

A. Yes.

Q. And you think that's true?

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A. Yes.
Q. In fact, you don't think we know every potential causative agent of lung cancer, do you?
A. I don't. No.
Q. In fact, you're quite sure of it, that we don't know every causative agent of lung cancer, are you?
A. Well, I think if you look at it, about 90 percent of all lung cancers are caused by cigarette-smoke carcinogens --
MR. GROSSMAN: Move to strike.
THE COURT: It's stricken.
Q. BY MR. GROSSMAN: You don't know any cause of lung cancer, do you?
A. I would say in about ten percent of cases we don't.
Q. You agree that there are people every year who have never smoked and develop lung cancer?
A. Well, there are a lot of lung-cancer cases; about ten percent of those who develop lung cancer are nonsmokers.
Q. About 20,000 people in the United States who never smoked develop lung cancer?
A. That is correct.

Q. And most of them get also adenocarcinoma.
A. That is also correct.
Q. It's fair to say that no one can really say with authority what the causes of lung cancer in those 20,000 people is?
A. Not with authority, probably that's correct.
Q. You also can't say which smokers would have gotten lung cancer if they never smoked?
A. Could you ask that question again?
Q. Well, people who never smoked get lung cancer, right?

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A. Um-hum.
Q. Some people who smoked would have gotten lung cancer anyway, wouldn't they?
A. Yes.
Q. And you can't say which ones they are; isn't that right?
A. Well, you can never take a group of people and -- Who are smokers and say this one's going to get it and this one's going to not get it, although science is actually getting pretty close to those people based on metabolic reactions and things that are coded by certain genes.
Q. When you say that 90 percent of people who get lung cancer are smokers --
A. Right.
Q. -- That doesn't mean that every one of them would have not gotten cancer if they hadn't smoked?
A. (No Response)
Q. Because we know that people who don't smoke get lung

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cancer?
A. Well, I guess you could maybe factor that in. If you wanted to take the idea that ten percent of the total people that develop lung cancer are nonsmokers and then apply that to the 90 percent that are smokers who get lung cancer, maybe you could subtract another 20,000 from them.
Q. And in determining relative risk, that's exactly what epidemiologists really are doing, isn't it? Determining the risk of it -- Getting lung cancer among smokers versus those who don't?
A. Well, I don't think you just said that they do what you said they do. I don't compare people who are smokers and nonsmokers and develop the relative risk for that.
Q. Exactly.

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A. But they don't take off another ten percent or 20 percent because ten of the people who didn't get lung cancer were nonsmokers.

Q. I'm saying that's factored into the equation by doing the matched control?

A. All right. So what you said then wouldn't make any sense, would it? You can't take ten percent away from the people that are smokers and say that they wouldn't have gotten it or gotten it anyway.

Q. Saying that 90 percent of people who get lung cancer are smokers doesn't mean that 90 percent of the lung cancers were caused by smoking?

A. Well, I think that's the implication. If you want to say that's not correct, I guess that's another issue.

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THE COURT: We'll take a ten-minute recess, just ten minutes. Please don't discuss the case.

(The mid-afternoon break was taken.)

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THE COURT: Let's bring them in, please.
(The following proceedings were then had in open court in the presence of the jury.)
THE COURT: Okay.
MR. GROSSMAN: Thank you. Thank you, your Honor.
Q (By MR. GROSSMAN) Doctor, we were talking about epidemiology before the break?
A Yes.
Q Now, in order to interpret the relative risk or odds ratio in an epidemiological study, in order to be able to interpret whether that's accurate, you need to know about the investigator's efforts to exclude systemic bias, don't you?
A Fair enough.
Q Systemic bias is always a problem to be encountered in any observational study, correct?
A It is.
Q And in order to interpret any observational study and the accuracy of the relative risks or odds ratio that it produced, you also need to know about efforts to exclude confounders, right?
A Yes.
Q And confounders are an issue that must be addressed in any observational study, right?
A I agree.
Q You've already testified that we don't know all the possible causes of lung cancer, and therefore it's not possible to know all of the confounders to be controlled for, right?
A I agree.

Q You've also reviewed studies I know that suggest that smoking is a marker for a variety of other lifestyles, including a high fat diet, lack of exercise and irregular sleep patterns, right?
A I -- certainly the first two. I'm not sure about the irregular sleep patterns, but that well could be.
Q And all of those are independent risk factors for decreased longevity and particularly cancer, right?
A I think it always depends on the amount, but yes.
Q Now, you're familiar with the writings of Urnst Wynder?
A Yes.
Q And he was a great epidemiologist, wasn't he?
A He was.
Q He wrote about the importance, among other things, of strength of association, didn't he?
A You know, I don't know that much about it. I just know

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the general thing about what he wrote about.
Q Well, you would agree that if you have a relative risk of 20 -- 20, it's less likely to be explained by bias or confounders than a relative risk of two or three; isn't that right?
A I agree.
Q And so the lower the relative risk, the more likely it is that that relative risk doesn't express a causative relationship but rather may express uncontrolled confounders or bias; isn't that right?
A I'd agree with that.
Q Now, Doctor, another factor that's considered in the

issue of causation generally is laboratory experiments, right?
A Sure.
Q At page 839 of your textbook, or at least your textbook edition that you had five years ago, and I think it's at the same page now, you wrote that -- and I quote: Animal inhalation tests have met with remarkably little success in producing lung cancer from cigarette smoke.
Isn't that right?
A That is correct. Yes.
Q And it's true that even though there have been many tests that have tried to produce lung tumors in rats and other laboratory animals through the use of whole cigarette smoke, they have not been able to do so.
A That is correct.
Q By comparison, laboratory researchers have been able to produce cancerous lesions in the lungs of laboratory animals by inhalation of diesel fuel; isn't that right?
A That is correct. Yes.
Q And you are also familiar with studies that have produced lung cancer in laboratory animals by feeding them a very high fat diet; isn't that right?
A Yes.
Q So it's fair to say that there are some things that have been given to animals, such as, dietary fat and diesel fuel, that have been successful in producing lung cancer in those animals but cigarette smoke is not.
A That is correct.
Q Doctor, when attempts have been made to induce lung

cancer in laboratory animals by non-pulmonary administration, say by -- not by breathing but, for example, by giving them a high fat diet, the kind of tumor that's most often formed is adenocarcinoma, isn't it?
A Well, I think that is correct. I'd to have look that up to be certain.
Q Well, that is that when you try to induce lung cancer in an animal either through intravenous administration, through the veins and the blood, or through food, the kind of lung cancer they tend to get is adenocarcinoma; isn't that right?
A Like I said, I don't dispute that. I'd have to look that up.
Q Well, six years ago when we discussed this you said that was correct, and it may -- you may have read it more recently then but you don't dispute it at all.
A As I said, I don't dispute that. There have been quite a few studies recently about diet and lung cancer.

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Q And in laboratory animals -- laboratory animals can get adenocarcinoma just like humans.
A They can.
Q And if you feed them a high fat diet they tend to get adenocarcinoma as the kind of tumor that's created; isn't that right?
A That's what I said. I think that is correct. I'd have to check on that.
Q By the way, as far as the association of dietary fat and lung cancer, there's been a lot of writing about that, hasn't there?

A There's been a quite a bit of writing, yes.
Q You're familiar with an article by Alavanja and others that was in the Journal of the National Cancer Institute some years ago, aren't you?
A Well, I don't remember those exact names. I have quite a few articles about diet and lung cancer.
Q It was an article done about non-smoking women in Missouri. Does that refresh your recollection?
A Well, there have been quite a few articles done about non-smoking women and the development of lung cancer.
Q And in that article on -- published in the Journal of the National Cancer Institute among somewhat over 400 non-smoking women, they compared the risk of lung cancer based upon their diet and particularly the amount of saturated fat in their diet.
A You know, I don't recall any of that. I don't dispute what you're saying. I can't remember.
MR. GROSSMAN: May I approach the witness, your Honor?
THE COURT: Yes.
Q (By MR. GROSSMAN) Doctor, I've handed you what's been marked for identification as AN-040117.
(Defendant R.J. Reynolds Exhibit AN-040117 was marked for identification.)
THE WITNESS: All right.
Q (By MR. GROSSMAN) Which is an article published in the Journal of the National Cancer Institute entitled, Saturated Fat intake and lung cancer risk among non-smoking women in Missouri.

A Yes.
Q If you recall, we discussed this a few years ago?
A We probably did. Like I said, I don't remember.
Q And you consider the Journal of the National Cancer Institute to be a reliable source, don't you?
A Yes.
Q Now, I'd like to turn your attention, if I may --
MR. PAUL: I'm going to object. The document is relating to women. It has no relevance to this case.
Q (By MR. GROSSMAN) Doctor, saturated fat -- the relationship between saturated fat intake and lung cancer has been found in both women and men; is that correct?
A Uh, I think that's been looked at in both women or men. I would have to go back again and review those individual articles to see what they show. Most of the studies that have been looked at diet have included both men and women, but each individual study has to be evaluated by itself.
Q All right. Well, looking -- looking at page 1911.

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A Okay.
Q Do you see a chart --
MR. PAUL: Same objection. It deals with women.
THE COURT: Overruled. This goes the weight of the evidence.
Q (By MR. GROSSMAN) Do you see a chart, Doctor, that shows five quintiles of dietary component consumption?
A I do.
Q And the top line is saturated fat?
A Yes.

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Q And -- and that shows relative risks for adenocarcinoma of the lung from saturated fat intake?
A Yes.
Q Below that, it also shows relative risks for other kinds of lung cancer from saturated fat intake; is that correct?
A Yes.
Q Now, the relative risks for adenocarcinoma from having saturated fat are far higher than the relative risks for adenocarcin -- for other kinds of lung cancer from saturated fat; is that correct?
A They are, yes.
Q Excuse me?
A They are, yes.
Q Looking at this, among people -- the highest 20 percent of fat intake, people who have the highest 20 percent of fat intake.
A Okay.
Q The relative risk for adenocarcinoma of the lung was found to be about 11.
A That is correct. Yes.
Q So that people with the highest intake of saturated fat, that's the bad fats, who never smoked had 11 times the risk of adenocarcinoma of the lung as people who ate a low saturated fat diet; is that correct?
A Well, in this case it's women specifically. It's not people in general.
Q Well, women -- in this case which dealt with 400 women --
A Yes.

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Q -- in Missouri, who were found in hospitals in Missouri, those who had the 20 -- who were in the group who had the 20 percent highest saturated fat intake had 11 times the risk of adenocarcinoma of the lung as women who had -- were the lowest group of saturated fat intake; is that correct?
A That is correct.
Q And all of these women were non-smokers; is that correct?
A That is correct.
Q Now, Doctor, we spoke about relative risks, epidemiology, and we spoke about the toxicological tests the laboratory tests. Another factor bearing on causation is mechanism, right?
A Yes.
Q If you can determine the mechanism exactly of how an exposure causes cancer then -- then causation itself is proved, right?
A Hmm, yeah, in general. I mean, if you can understand the entire mechanism, yes.
Q Now, the mechanism of lung cancer -- the mechanism by

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which cigarette smoking can create lung cancer is not fully understood, is it?
A Not fully understood, but we've got some pretty good ideas.
Q Recent research has developed more ideas at the DNA level; is that correct?
A Yes.
Q But you still don't know how many steps there are in carcinogenesis of the lung; isn't that right?

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A We don't know exactly how many steps there. It turns out that at least in -- I think in every lung cancer that's been analyzed you can find at least two mutations in proto-oncogenes and two mutations in tumor suppressor genes, but it varies from each case, one case to other.
Q And we don't know exactly the mechanism by which smoke may causes those changes in the DNA; isn't that right?
A Well, I think that's been pretty well -- that's been pretty well worked out at least with one tumor suppressor gene with P-53.
Q And P-53 is expressed in some smokers and not in others.
A Well, P-53 mutations are seen in the majority of smokers.
Q They're also found in people who have never smoked.
A That's true.
Q And they're found in people who have lung cancer and people who don't have lung cancer.
A Yes, but the majority of people that have lung cancer have P-53 mutations.
Q Now, in general, the mechanism is not fully explored --
THE COURT REPORTER: I'm sorry?
Q (By MR. GROSSMAN) In general, the mechanism of lung cancer is not fully explored or documented; is that correct?
A Well, I'm not sure it will ever be fully explored. As far as being fully documented, I don't think we know of the exact total mechanism at this point in time.
Q But there have been advances in the past few years, very resent past few years.
A Yes.

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Q Now, in 1995 you and I discussed the terms "cause" and "relative risk." Do you recall that?
A Yes.
Q And I -- we discussed at that time what was Reynolds' position and had been for many years on the term to apply to the relationship between smoking and lung cancer; is that correct?
A I think we had a discussion about that, yes.
Q And that was about lung cancer generally, not specific types of lung cancer, do you recall?
A Yes.
Q And your testimony was that inasmuch as toxicological tests for the inhalation of cigarette smoke -- we'll wait.
(Cell phone rings.)
JUROR NUMBER FIVE: I'm sorry.
MR. GROSSMAN: Take your time. It's a nice melody.
JUROR NUMBER FIVE: I'm so sorry.
MR. GROSSMAN: That's all right. It breaks up the morning.
Okay. Great.

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Q (By MR. GROSSMAN) Doctor, as I told you then, in 1995, R.J. Reynolds' position had been --
MR. PAUL: Your Honor, I'm going to object. This is argumentative.
THE COURT: Sustain as to form.
Q (By MR. GROSSMAN) Okay. Doctor, as we discussed in 1995, R.J. Reynolds' position for many years had been --
MR. PAUL: Still, I object.

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THE COURT: Sustained.
Q (By MR. GROSSMAN) Doctor, in 1995 you testified that inasmuch as toxicological tests for the inhalation of cigarette smoke were negative, the laboratory tests with rats and others were negative, and therefore definitive proof of a relationship between cigarette smoking and disease had not been demonstrated. Nonetheless, there are many epidemiological tests showing relative risks for cigarette smoking in a variety of diseases, including lung cancer, and because of that, cigarette smoking can be characterized as a risk factor for a number of diseases, including lung cancer and emphysema.
And you saw that as an appropriate position at the time; isn't that correct?
A Yes.
Q Now, Doctor, let's turn to causation in the individual.
What we've been talking about is causation in society as a whole, right?
A Yes.
Q Determining causation in an individual, or etiology of the disease in an individual, requires a somewhat different kind of investigation, doesn't it?
A Well, I think as far as an individual case, you'd take the epidemiologic data that has been published or has been formulated and you use that -- you know, that data to apply to an individual case.
Q Well, let's -- let's proceed piece by piece in how that might be done.
A All right.

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Q Some of the risk factors for cancer, you testified on direct examination that some risk factors for lung cancer can act synergistically with cigarette smoke; is that correct?
A I think the one we talked about, and the only one we talked about, was asbestos.
Q And that is if you look at -- at the prevalence of disease, of lung cancer, among people who were exposed both to cigarettes and asbestos -- who smoked and were exposed to significant asbestos, the two risks don't add up but, in fact, multiply.
A That is correct.
Q Other risk factors for lung cancer are independent of cigarette smoking though; isn't that correct?
A There are some other agents that can cause lung cancer that are independent that I don't think have any synergism with tobacco smoke carcinogens.
Q For example, you've testified that dietary factors such as fat intake, alcohol consumption, beta-keratin, leafy greens, vegetables generally, are all viewed as independent risk factors of smoking for lung cancer; is that correct?
A Uh, well, that is correct. But I don't think I look at

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those as risk factors. In fact, the beta-keratin, the leafy vegetables, etcetera, etcetera, are thought to be agents that can decrease the risk or incidence of lung cancer in general.
Q One way of looking at it is that if you don't eat leafy greens your risk of lung cancer goes up, and another way of looking at it is if you do eat leafy greens your risk of lung cancer goes down.

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A Well, maybe. The caret, C-A-R-E-T, study I was involved with really didn't actually find that but --
Q But most other studies have.
A Many other studies have found that to be the case.
Q Okay. Now, air pollution and living in an industrial area is generally viewed as an independent risk factor; isn't that right?
A That is correct.
Q Diesel exhaust emissions are generally viewed as independent risk factors; is that correct?
A Highly controversial, but the last article I saw was that they were thought to increase the incidence of lung cancer.
Q Family history in genetics are generally viewed as independent risk factors; isn't that correct?
A Yes.
Q In order to undertake a study of the cause or etiology of any individual's cancer, one must undertake a study of all the exposures that that individual may have had in his lifetime; isn't that right?
A I'd agree with that.
Q You'd want to know about his history of drinking, for one. You've said that; isn't that right?
A You might want to know about that, yes.
Q You would want to know about his fat intake; isn't that right?
A Potentially, yes.
Q Particularly, his saturated fat intake.
A Okay.

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Q You'd want to know about his vegetable intake; isn't that right?
A Potentially, yes.
Q Potentially, you'd want to know about his exercise patterns.
A Potentially, yes.
Q You'd want to know whether he lived in or around an industrialized area.
A Yes.
Q Now, Doctor, lung cancer is or may be a multi-factorial disease; isn't that right?
A Well, you know, you can say it's a multi-factorial disease but when you get down -- right down to the bottom line, I just don't think so. All of the epidemiologic studies that have ever been published say that it's really caused by basically one thing, and that's the carcinogen of cigarette smoke.
MR. GROSSMAN: Move to strike as nonresponsive.
THE WITNESS: That's what it is though.
THE COURT: Stricken.
Q (By MR. PAUL) Doctor, lung cancer is a multi-factorial disease as you have testified; isn't that correct?

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A It is a potentially multi-factorial disease, but of all the factors that we know of that cause lung cancer, cigarette smoke is by far the most important.
MR. GROSSMAN: Move to strike as nonresponsive.
THE COURT: He can qualify the answer. Denied.
Q (By MR. GROSSMAN) One person who is exposed to 20

things that may be related to lung cancer may get lung cancer, and another person exposed to the same 20 things may not; is that correct?
A That is correct. Yes.
Q And in any particular case from one who does get lung cancer -- let me start that again.
In any particular case of a person who does get lung cancer, one cannot know which of the 20, either alone nor combination, may have caused the lung cancer; isn't that right?
A I think that's right certainly from a -- I guess a pure point of view in the respect that you can't really ever determine what the causative agent was, but I think from a practical point of view you can certainly pretty easily figure out which one is most important.
Q Well, there are -- there are significant differences between attempting to attribute population-based risks for lung cancer from exposures than attempting to attribute individual risks for lung cancer from exposures; isn't that right?
A Well, that's true. But still when you take the individual case, you still rely on the big groups of epidemiologic studies that have shown what the primary cause of lung cancer is.
Q Well, epidemiological numbers may relate to the whole of the population but they can't simply be applied to individuals in the same way. That's a tenet of epidemiology, isn't it?
A Well, maybe that's a tenet of epidemiology, but on the other hand, though, what epidemiology does, though, is it has a control group, just like you said. And you would generally

think that if you match a person for age and sex and say one person's a smoker and the other person is not a smoker, that if you had enough people, that all of these other factors would probably correct themselves.
And then if you found a significantly increased incidence of lung cancer in cigarette smokers, you would automatically come to the conclusion that everybody has come to, and that is cigarette smoke causes lung cancer.
Q The difference between a population-based study and the attribution of risk to an individual though is significant, isn't it?
A I don't think it is significant, because you use the -- you use the epidemiologic studies to really attribute risk to it. Because if you didn't do that, why do epidemiologic studies?
Q Doctor, have you made a study of Mr. Lucier's dietary fat intake, particularly his saturated fat intake?
A No.
Q Have you made a study of his drinking habits?
A I have not made any scientific study. I usually try to indicate in my reports if a person was or was not a drinker, but not any detailed study.
Q Have you made any study of his consumption of vegetables?

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A No.
Q Have you made any study of his other exposures to carcinogens that could affect the lung?
A Not specifically, other than knowing kind of what his job was. I didn't see any histories that I read that he was

exposed to any other known carcinogens that I think of of causing lung cancer.
Q Have you made any study of his family history for cancer?
A Uh, that was indicated in my report, and I did look at that history.
Q Doctor --
MR. GROSSMAN: May I approach the witness, your Honor?
THE COURT: Yes.
Q (By MR. GROSSMAN) Here you go, Doctor.
A Thank you.
Q Doctor, I've handed you what's been marked for identification as ALC-000053 which is a chart of Dr. Bruce O'Neil on Mr. Lucier.
(Defendant R.J. Reynolds Exhibit ALC-000053 was marked for identification.)
Q You've seen that before, haven't you? That was in the materials provided to you by the plaintiffs among the medical records given to you, isn't it?
A I don't think I saw this. But I have the records with me. I could take a look. I don't recall seeing this.
MR. GROSSMAN: We would move the admission of this document.
MR. PAUL: We need to -- I haven't had a chance to review it, so may we just pass it at this point in time and he can discuss --
THE COURT: Yes.
Q (By MR. GROSSMAN) All right. I'd like to direct your attention, if I may, to page nine.

A Okay. All right.
Q Do you see, Doctor, that there is -- there are readings there for cholesterol and triglycerides?
A I do. Yes.
Q And in 1997, Mr. Lucier's cholesterol reading was 232?
A Yes.
Q That's high?
A It's about 32 milligrams per deciliter over the upper limits of normal.
Q And triglycerides are a kind of fat?
A Yes.
Q And his triglyceride reading was 1,057?
A Yes.
Q Now, the normal rage for triglycerides is between 47 and 175?
A Yes.
Q His triglyceride number was more than six times above the high end of normal?
A If that is what he actually had, yes.
MR. GROSSMAN: May I approach the witness, your Honor?
THE COURT: Yes.
Q (By MR. GROSSMAN) Doctor, I've handed you what has been marked for identification as ACX-000177, which is a laboratory record from plaintiff's application for insurance.

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(Defendant R.J. Reynolds Exhibit ACX-000177 was marked for identification.)
Q (By MR. GROSSMAN) And this was conducted in 1996. Do you see that?

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A I do. Yes.
Q And, Doctor, at that time Mr. Lucier's triglyceride level was calculated as 2,078?
A Yes.
Q That was by another doctor other than Dr. O'Neil; is that correct?
A Well, that's done by the lab. It's not done by the physician. It was done -- let's see if it's the same laboratory.
Q Excuse me?
A I was just saying it's not done by Dr. O'Neil. It's done by the laboratory. And I was just going to see if it was the same laboratory or a different laboratory. And it looks like it was a different laboratory.
MR. GROSSMAN: May I approach the witness, your Honor?
THE COURT: Yes.
MR. GROSSMAN: We would offer that into evidence.
MR. PAUL: No objection.
THE COURT: Received.
(Defendant R.J. Reynolds Exhibit ACX-000177 was received into evidence.)
Q (By MR. GROSSMAN) Doctor, I've handed you what's been marked for identification as Defendant's Exhibit ACX-000176.
(Defendant R.J. Reynolds Exhibit ACX-000176 was marked for identification.)
Q (By MR. GROSSMAN) And that is another test by the same laboratory as the last one which lists triglycerides. And notice it was after a different meal, different date of last

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meal, I guess. Or it's a retest?
A Well, it's a different lab. Let me just look at the dates here a second.
(Pause.)
THE WITNESS: The first one was done in September of 1996. This one was done on December 1996.
The other thing that I think is significant here is that in the top of the laboratory report from the September 21, 1996, the serum was stated to show, quote, severe lipemia, end quotes. And in this one, I should say the one dated December 7, 1996, the serum appeared normal.
Let's see about the meals. It looks about the same there -- no, wait a second. It's different. And this is highly significant.
Q (By MR. GROSSMAN) Mm-hmm.
A If you look at the first one, which was September 21, 1996, it says the last meal was at 6:00 a.m. on September 21, 1996, and the specimen was collected at 9:00 a.m. So that was three hours after the last meal.
And then if you look at the laboratory test from the report, the next one, which was December of 1996, it states that the last meal was at 6:00 p.m. on December 6, so that was the evening of December 6th, and then it says the specimen was collected at 10:00 a.m.
Generally lab tests are done -- you know, people have

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been fasting. So I would --
Q So the second one is a fasting, more of a fasting.
A Right. I would say that the second one, unless he --

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because it didn't indicate he ate breakfast there, the second one would be more accurate.
Q All right. Now, looking at the second one, it showed triglyceride level of 573; is that correct?
A It did. Yes.
Q That again -- and it showed the usual clinical range was between 10 and 160.
A Yes.
Q So he was way off the charts even fasting on triglycerides; is that correct?
A About four times higher than normal at the upper limits of normal.
Q It also showed that his cholesterol at that time, fasting cholesterol at that time, was 332; is that correct?
A It did. Yes.
Q And almost all of that was the bad cholesterol; isn't that correct?
A That is also correct. Yes.
Q Now, 332 is well above the normal range; isn't that correct?
A The normal -- upper limits of normal cholesterol in most labortories is 200.
Q 200?
A Yes.
Q And this was 332.
A Well, in here though they have that the upper limit of value -- excuse me. The upper limit of normal was 260 milligrams per deciliter, D-E-C-I-L-I-T-E-R.

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Q But whether it's 200 or 260, depending on the laboratory for upper limits, this is well above normal; isn't that correct?
A It's elevated, yes.
Q And these levels of triglycerides which are many times normal and cholesterol which are above normal in all of the tests tend to demonstrate a diet high in saturated fat; is that correct?
A That might be one of the reasons. The other reason is actually your liver produces about 90 percent of your cholesterol, and it's not from what you eat. Triglyceride also is affected by metabolism. There are some people that have a disorder of lipoproteins that carry the fat and you'd have to investigate him for that problem.
MR. GROSSMAN: We would offer 76 (sic) into evidence.
MR. PAUL: No objection.
THE COURT: Received.
THE COURT REPORTER: What is the number, Counsel?
MR. GROSSMAN: It was --
MR. GEISE: ACX-176.
(Defendant R.J. Reynolds Exhibit ACX-000176 was received into evidence.)
Q (By MR. GROSSMAN) You've seen Dr. O'Neil's studies where he also tested for liver-related disease; isn't that correct?
A I saw some what I would consider liver function tests, yes.

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Q And indeed, he tested -- the liver functions were sufficiently off that he -- he tested for hepatitis?

A He did. Yes.
Q And the records showed that he was concerned about the amount of alcohol that may have caused liver function problems?
A I think he was concerned about that. I did not see any information in what I had to review that that ever bore out one way or the other.
Q These are all factors that may enter into the etiology of cancer; is that correct?
A Well, with respect to the abnormal liver function tests, you're worried more about what's happening to the liver. And if it -- certainly alcohol has a much greater potential effect on the liver than it does on the lungs. I think what Dr. O'Neil is concerned about is the man's overall health.
Q Doctor, let's turn now to the term the phenomenon of occult cancers, or cancer of unknown primary site?
A Sure.
Q That's a well documented phenomenon, isn't it?
A Yes.
Q You've written about it yourself, haven't you?
A I have.
Q Sometimes you can't find the primary site even on autopsy.
A That is true.
Q Now, if you had conducted an autopsy on a person who had presented during his lifetime with metastatic cancer -- and by the way, Mr. Lucier has presented with metastatic cancer; is that correct?
A He has, yes.

Q In 1999, correct?
A That is correct.
Q If you conducted an autopsy on a person who presented with metastatic cancer --
MR. GROSSMAN: Could we pull up the chart again of -- of the organs in the body with adenocarcinoma -- where adenocarcinoma could start.
Q (By MR. GROSSMAN) Doctor, if you conducted an autopsy of a person who had a history of renal cysts, that is, kidney cysts, and of an additional renal shadow, kidney shadow had shown on CAT scan, and of blood in the urine, would you section his kidney?
A Well, I would section his kidney whether that was found or not. When you do an autopsy, I think most pathologists section the kidney. And I think when you asked me in my deposition I told you how I would do that.
Q We don't have to get into the details, I'm sure.
A Oh, it's very simple. What you do is you just take the kidney out that's surrounded by fat, and then you actually just cut from the back of it and go right through the middle, and then you open it up. You take off the fat, and you can see the entire kidney, and then you basically cross section it like that and look at every bit of it.
Q And you would look throughout it for any potential tumors; is that correct?
A Well, tumors, evidence of vascular disease, a bunch of other -- excuse me -- other diseases that could potentially

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Q Now, if you were to conduct an autopsy on a person who had a history of signet ring carcinoma --
A Sure.
Q -- and we'll come to the significance of signet ring, but if you were to conduct an autopsy on a person who had a history of signet ring carcinoma as shown in the metastases, particularly where the primary had never been biopsied, you would section the stomach and the gastroesophageal junction, wouldn't you?
A Well, those are kind of close to the same thing. I'd certainly definitely look at the entire stomach which would include the region of gastroesophageal junction, which is called the cardia of the stomach. I would look at the entire stomach. Sure.
Q And you would also look at the intestines, wouldn't you?
A I would look at the intestine, yes.
Q You would section the intestine -- could you describe how you would section the intestine under these circumstances.
A Sure. What you do is once -- well, at least when I do an autopsy, I cut the small intestine right at what's called the ligament of trietz, T-R-I-E-T-Z, and the remaining specimen, which would consist of part of the jejunum and the entire ileum, I usually would take that out in association with the colon down to where the sigmoid colon and the rectum attach. And then I would take a pair of scissors and open the entire intestine up along what's called the antimesenteric border and take out all of the material inside of the lumen and wash it in water, and then take -- start at the top or start at the bottom

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and just look at every bit of it.
Q You'd look at every bit of it to see, among other things, if there were any lesions, any potential cancers, right?
A Cancers, ulcerative colitis or whatever.
Q By the way, pancreatic cancer is a -- commonly an occult cancer; is that right?
A I would say it's not commonly occult, but I think if you look at the occult cancers it's a fairly common one, yes.
Q Pancreas is right over here, right?
A Well, it's right underneath the stomach there or what's called the lesser sac.
Q Now, of all the unknown primary tumors -- and there can be unknown primary tumors of different kinds of cancer, can't there?
A Yes.
Q But of all of them, the most common type of occult tumor is adenocarcinoma; isn't that right?
A That is correct.
Q In fact, the primary site of adenocarcinoma is the most common primary site to be misdiagnosed during a patient's lifetime; isn't that right?
A I think that's probably right just because that is the most common, and that's probably also the one that potentially can cause the most confusion.
MR. GROSSMAN: I think it would be a good time for --
THE COURT: We'll take the lunch recess. 1:30. Have a nice recess. Please don't discuss this case.
(Lunch recess.)

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PAGE 5987 WAS BLOCK NUMBERED FOR TRANSCRIPTION PURPOSES.
(NOTHING OMITTED.)
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MONDAY, DECEMBER 9, 2002
AFTERNOON SESSION

The matter of LAURENCE LUCIER and LAURIE LUCIER, Plaintiffs, versus PHILIP MORRIS INCORPORATED and R.J. REYNOLDS TOBACCO COMPANY, Defendants, Case No. 02AS01909, came on regularly this day before the Honorable Steven H. Rodda, Judge of the Superior Court of the State of California, for the County of Sacramento, Department One.

The Plaintiffs, LAURENCE LUCIER and LAURIE LUCIER, were represented by: GARY M. PAUL, Attorney at Law; ROBERT M. BROWN, Attorney at Law (not present); and MARY ALEXANDER, Attorney at Law (not present).

The Defendant, PHILIP MORRIS INCORPORATED, was represented by: GERALD V. BARRON, Attorney at Law; LAURA C. FEY, Attorney at Law; DEBORAH A. SMITH, Attorney at Law (not present); and ANNIE Y.S. CHUANG, Attorney at Law (not present).

The Defendant, R.J. REYNOLDS TOBACCO COMPANY, was represented by: THEODORE M. GROSSMAN, Attorney at Law; STEVEN N. GEISE, Attorney at Law; HAROLD K. GORDON, Attorney at Law; DANIEL J. McLOON, Attorney at Law; and ELIZABETH P. KESSLER, Attorney at Law.

(The following proceedings were then had in open court outside the presence of the jury.)

THE COURT: Ready for the jury?

MR. PAUL: Yes, your Honor.

THE COURT: Okay. Bring them in.

MR. PAUL: Your Honor, maybe before we do that. I understand there's a juror that has a timing --

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THE COURT: Right.
What's that about, Aaron?
THE COURT ATTENDANT: Your Honor, he just said that he wanted to know if we could get off a little early today because he had to go sign some paperwork for a car, an automobile.
THE COURT: At D.M.V?
THE COURT ATTENDANT: I'm not sure. I didn't get into any of the details about where or what it was.
THE COURT: What does our schedule look like?
MR. PAUL: Well, I talked to Mr. Grossman. He indicated that he probably had another couple hours. If that's true -- I do have some redirect.
THE COURT: Let's bring in the juror. Why don't we talk --
MR. PAUL: Because his wife starts chemo tomorrow and so he needs to be there for that.
THE COURT: Okay. Let's bring -- shall we bring the juror in and talk to him?
MR. PAUL: Sure.
THE COURT: It will only take a minute.
MR. GROSSMAN: Okay.
THE COURT: Hi. Just have a seat, if you would.
What's the situation?
JUROR JONES: We're getting a car for my daughter at 4:30. I'm supposed to make the transaction with the seller at the bank.
THE COURT: Okay. Where is that bank located?
JUROR JONES: On Watt. I got my wife going there in case

I can't do that.
THE COURT: Okay, great. Because we need to complete the testimony today.
JUROR JONES: Yeah.
THE COURT: So we'll do our best, but no promises. Is that okay?
JUROR JONES: Yeah. That's fine.
THE COURT: Okay. Good. Thanks.
Bring the jurors in, everybody.
MR. PAUL: Thank you, your Honor.
(The following proceedings were then had in open court in the presence of the jury.)
THE COURT: Okay. Good afternoon.
Mr. Grossman.
MR. GROSSMAN: Thank you.
Good afternoon.

CROSS-EXAMINATION (continued)

BY THEODORE M. GROSSMAN, Attorney at Law, Counsel on behalf of the Defendant R.J. REYNOLDS TOBACCO COMPANY:

Q Doctor --
MR. GROSSMAN: Could we pull up the slide on adenopathy that we looked at earlier.
Q (By MR. GROSSMAN) Doctor, this is the slide that we looked at that is a graphic demonstration of where lymph nodes were oversized at the time that Mr. Lucier presented in December -- I'm sorry, in June of 1999.
A Okay.
Q Do you recall that?

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Now, you testified that the only lymph node that was biopsied was the pretracheal node, correct?
A Yes.
Q As far as the other nodes are concerned, they could have represented metastatic cancer or they could have represented infection, among other things; is that correct?
A Those are the two of the possibilities. Probably a more likely possibility than either one of those is that they showed a change referred to as reactive hyperplegia that didn't represent infection or metastatic cancer.
Q It could have been any of those; is that correct?
A Yes. I would assume that if they would have been rock hard like most cancer lymph nodes are that it would have been easier to biopsy an axillary or supraclavicular node than it would have been a mediastinal node.
Q Now, Doctor -- but that's an assumption, right?
A Yes.
Q Now, Doctor, as far as the relationship between cancer and infection, you said earlier that one can have cancer and infection at the same time; is that correct?
A Yes.
Q In fact, it's not uncommon.
A Well, it's not uncommon in the lung, especially if you have a central tumor or a tumor that's obstructing a bronchus.
Q And you can have cancer and infection that are unrelated too, can't you?
A You potentially could, yes.
Q Now, the hilar region was shown to have adenopathy, shown

to have swelling, oversized mass demonstrated on radiology.
A The way they referred to it in all the records that I saw was a mass.
Q You've also seen records from 2002; is that correct?
A Yes.
Q And in May of 2002, Mr. Lucier's records again showed what appeared to be a recurrence of a mass in the hilar region.
A There was some recurrence of infiltrate or nodularity in there. I don't know if it was totally referred to as a mass, and I'd have to review that. I thought it was more of an infiltrate.
Q Now, in 2002 -- well, in 1999, in addition to receiving chemotherapy, Mr. Lucier received antibiotics; is that right?
A Uh, you know, I can't remember. I wouldn't be surprised.
Q Especially given the fever that he had had.
A That would be something possibly reasonable to do.
Q And in 2002, Mr. Lucier was again given antibiotics in May of 2002; is that correct?
A Yes.
Q And the consolidation that was seen in the hilar region cleared up with the antibiotics, didn't it?
A It did. Yes.
Q Antibiotics do not cure cancer.
A That's correct. Except, there's one type of an chemotherapeutic agent that's an antibiotic called gliomycin (phonetic) that does cause -- that does cure cancer, or can.
Q That wasn't given to Mr. Lucier either in 1999 or 2002; is that correct?

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A That is correct.
Q By the way, in 2001, Mr. Lucier also had some evidence of a problem in the hilar region; isn't that correct?
A He had some infiltrates in various parts of his lung in 2001, not only in the hilar area but also in other areas.
Q They were thought at -- to represent either a recurrence of cancer or perhaps bronchioloalveolar carcinoma by his doctors initially; isn't that correct?
A Those are two possibilities. I think the other thing they were thinking about was infection.
Q And, in fact, when they were treated -- when he was treated with an antibiotic it went away.
A That is correct.
Q Showing again that that was an infection; isn't that right?
A Yes.
MR. GROSSMAN: All right. Thank you, Melanie.
Q (By MR. GROSSMAN) Let's turn to the significance of finding signet ring morphology in the mediastinal node, in the pretracheal node.
A All right.
Q And that's a mouthful.
But, Doctor, you testified on direct and, in fact, you showed a slide or various slides with signet ring cells from the pretracheal node of Mr. Lucier, correct?
A Yes.
Q And in that you and Dr. Brantley and Dr. Barsky were all in accord, correct?

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A I think we are, yes.
Q Now, signet ring cells can arise in adenocarcinoma from a number of organs, right?
A Correct.
Q They're not at all a common type of lung adenocarcinoma; is that correct?
A Yes.
Q In fact, traditionally signet ring cell histopathology, signet ring cell appearance of -- of cancer has not been recognized as a distinct type of lung cancer; is that correct?
A Uh, as a general rule I think that is correct, at least from a -- kind of a historical perspective.
Q Yeah.
A I think, as you know and I know, that there are adenocarcinomas of the lung that can have that morphology, but if you were to use the word signet ring carcinoma, that would probably be thought of most likely as a type of cancer arising in the stomach.
Q Yes. And let's go through the history very briefly. The World Health Organization didn't recognize signet ring cancer as a potential type of lung cancer until 1999; is that correct?
A That is correct.
Q The first edition of the World Health Organization's Manual on Typing of Lung and Pleural Tumors in 1967 didn't discuss signet rings primary to the lung at all.
A Correct.
Q The same was true in the second edition in 1981; isn't that right?

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A I thought it was '91.

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Q '81 or 91, the second edition --
A The same answer, no.
Q And it wasn't until the third edition in 1999 that the World Health Organization recognized signet ring cancer as possibly being a variant of adenocarcinoma of the lung.
A Correct.
Q Now, the -- one of the most respected, maybe the most respected, source of histological typing for cancers of the lung is the Armed Forces Institute of Pathology Atlas of Tumor Pathology; is that correct?
A Yes.
Q And it didn't mention signet ring cancer as being a possible tumor of the lung until 1995; is that correct?
A That's correct. That's the most recent edition of that volume on cancers of the lower respiratory tract.
Q Now, to give the jury an idea of how rare signet ring cancer of the lung is, you're familiar with the article by Kish and others in human pathology entitled, Primary Mucinous Adenocarcinoma of the Lung with Signet Ring Cells?
(Defendant R.J. Reynolds Exhibit ALC-000689 was marked for identification.)
THE WITNESS: I am, yes.
Q (By MR. GROSSMAN) Not only that, you obviously brought a copy of it with you.
A I did.
MR. GROSSMAN: I'll get a copy if I could, and to counsel.

Doctor -- oh, you have the Court copy.
Q (By MR. GROSSMAN) Okay. Doctor, you have in front of you the article by Janet Kish, J. Roe, and others entitled, Primary Mucinous Adenocarcinoma of the Lung with Signet Ring Cells?
A Yes.
Q And that is from Human Pathology in November 1989?
A Correct.
Q And that's a source that you use as a reliable source, isn't it?
A Yes.
Q Now, the authors of this article are from the M.D. Anderson Cancer Center in Houston; is that correct?
A Yes.
Q That's one of the most respected cancer centers in the country, isn't it?
A Yes.
Q They examined approximately 3,500 patients who had adenocarcinoma of the lung; is that right?
A Yes.
Q And out of those 3,500 patients, they found five who had signet ring cells in the lung primary?
A Yes.
Q That's .14 percent?
A I didn't calculate it, but let's see. One percent would be 35. Yeah, about that. Yes.
Q One out of 700?
A Yes. Uh-huh.

Q Okay. Now, in Mr. Lucier's case, we've gone over several times, no cancer cells were ever extracted from the lung. But

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even if you found cancer in the lung itself and it contained signet ring cells, most pathologists on finding signet ring cell adenocarcinoma would presume that to be metastatic; isn't that right?
A I don't know what they would presume. I think that a lot of pathologists in pulmonary pathology would certainly consider the possibility of it being metastatic, and they probably would also consider the possibility of it being a primary tumor.
Q Both would be considerations that would have to be taken into account; is that correct?
A Evaluated, yes.
Q Now, looking at the Kish article, by the way --
A Uh-huh.
Q -- on page 1101.
A Okay.
Q In the right-hand column it says: None of our cases were pure signet ring cell tumors, but the percentage of signet ring cells present ranged from ten percent to fifteen percent.
A Correct.
Q Do you see that?
A Yes, I do.
Q Going further, it says --
MR. GROSSMAN: By the way, we would move this into evidence.
MR. PAUL: The article?
MR. GROSSMAN: The article.

THE CLERK: I never heard an exhibit number on that.
MR. GROSSMAN: Excuse me? Oh, I'm sorry.
ALC-000689.
THE CLERK: Thank you.
MR. PAUL: I don't have an objection.
THE COURT: Okay. It's received.
(Defendant R.J. Reynolds Exhibit ALC-000689 was received into evidence.)
MR. GROSSMAN: Thank you.
Melanie, could I have the Elmo, please.
Thank you very much.
Q (By MR. GROSSMAN) Doctor, looking at what it says here: Traditionally the finding of signet ring cells in a bronchial or lung biopsy -- and that means in the airways of the lung or in the lung itself, right?
A Yes.
Q ...has been interpreted as evidence of metastatic signet ring cell carcinoma, most likely gastric cancer.
That's stomach cancer, right?
A Yes.
Q Although one must exclude a metastasis from an extrapulmonary site in such cases, primary signet ring cell adenocarcinoma of the lung should be kept in mind.
And you agree with all of that, don't you?
A I do. Sure.
Q The authors of that article also said that because -- since signet ring cell features are so unusual in lung cancer the possibility of primary stomach cancer with metastasis to

the lung was entertained in each of the cases.
Do you recall that?
A I do.

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Q And that's appropriate, isn't it?
A Yes.
Q And, indeed, because signet ring cells are suggestive of gastrointestinal or other cancers rather than lung cancer, when signet ring carcinoma is found it suggests that other sites must be discounted before a diagnosis of lung cancer can be made; isn't that right?
A That's what it said, yes.
Q And you don't disagree with that, do you?
A No.
Q And you don't disagree that signet ring cell adenocarcinoma is much more common in gastrointestinal tract cancer, specifically stomach and colon, than in cancer of the lung?
A Oh, I don't -- I don't discount that. I think that's probably correct. But I think you also have to realize, though, that even in gastric cancers and colonic cancers that that also is an extremely rare type of adenocarcinoma. I mean, I can count probably on my hand the number of cases of primary signet ring colonic adenocarcinoma I've seen.
And also, most of the cases of what's called signet ring carcinoma of the stomach are what are referred to pathologically as linitis plastica type of tumors, and those are also very rare. So it's not a very rare cell type in general, whether it be in the lung or GI tract.

Q Well, but it's much more rare in the lung.
A Well, it's rare in the lung, but it's not a common tumor. I mean, if you look at adenocarcinomas right now that occur in the stomach, the majority occur at the GE junction in the cardia of the stomach. Very few, I would say less than one percent, are signet ring adenocarcinomas.
Q Doctor, you're familiar with the Journal of Cancer?
A Yes.
Q And you view that as an authoritative source?
A In general, yes.
Q And do you recall there was an article by Antonioli (phonetic) and Goldman called, The Change in the Location and Type of Gastric Adenocarcinoma, that's been reported?
A I don't necessarily recall that, no.
Q They reported 29 percent of patients --
MR. PAUL: Your Honor, I'm going to object unless there's some foundation for it. He hasn't read the article.
THE COURT: Sustained.
Q (By MR. GROSSMAN) Doctor, are you familiar with the Journal of Surgical Oncology?
A No. I don't read that. I mean, I know of that journal, but I don't take that journal. I don't read that journal.
Q You view it as a reliable source?
A Well, like I said, I don't know much about that. I think it's a peer-review journal.
Q There is peer-reviewed literature -- excuse me -- on stomach cancer.
A There is.

Q Isn't there?
A Yes.
Q And there's peer-reviewed literature on stomach cancer as to the percent of stomach adenocarcinomas that show signet ring

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morphology; isn't that right?
A There probably is. I mean there wouldn't be any reason why there wouldn't be, let's put it that way.
Q Have you reviewed it?
A No.
Q Would it surprise you that studies from throughout the world have shown that between ten to --
MR. PAUL: Your Honor, I'm going to object to this. Argumentative.
THE COURT: Sustain as to form.
Q (By MR. GROSSMAN) Okay. Doctor, another way of saying what Kish and the others said in that article -- let me step back.
As you said, you agree with Kish in the article that a -- because signet ring cells are suggestive of gastrointestinal and other cancers rather than lung cancer when signet ring carcinoma is found, it suggests other sites must be discounted.
A Yeah, I have -- I agree with that. I don't have any problem with that.
Q And you agree that signet ring cell adenocarcinoma is more common in gastrointestinal cancer than it would be in the lung?
A I would certainly say in the stomach. In the colon, I would have to check. In the stomach, I would say yes.

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Q Okay. Now, another way of saying that is to say that all other things being equal if you find metastatic signet ring carcinoma even in the lung, more likely than not the cancer arose from another organ.
A Well, I think you kind of have to qualify that. Because as -- as is pointed out in the Kish article and also in another article that I know you're aware of is that when you look at the primary tumor some of those cancers in the lung have what's called a bronchioloalveolar growth pattern. So even that though is not a hundred percent certain that that's a primary lung cancer, but it would certainly suggest it. So there are other things that have to be taken into account.
I think if you just had a biopsy specimen, like a transbronchial biopsy specimen that showed a signet ring adenocarcinoma is that you certainly would have to consider other primary sites.
Q And when you find signet ring adenocarcinoma even in the lung, more often than not it arose at a different site.
A I suspect -- you know, I don't know the answer to that question. I mean, statistically I guess if you go by the premise that there are more metastatic adenocarcinomas in the lung than primary, that might be true. But what usually happens in real medicine is that if a person has a known gastric primary and then turns up with multiple nodules in the lung, they usually don't biopsy it. If you got down to a solitary nodule in the lung, you know, I'm not certain that a metastatic would be more likely than a primary.
Q You don't know one way or the other?

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A No, I would have to see if there's any data on that. I really don't know.
Q Now, one way of determining a primary site is actually to find the primary tumor; is that correct?
A That's one way, yes.

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Q In fact, in the Kish article that you just discussed --
A Mm-hmm.
Q -- the authors of that article excluded other primary sites by actually finding the primaries in the people involved; is that correct?
A They did, yes.
Q And in -- in one case that had signet ring morphology what they found was a little nest of cells in the bronchioloalveolar area that showed a bronchioloalveolar pattern, and that was the primary, and that demonstrated to them that the primary organ had been the lung, correct?
A That's what they said, yes.
Q Now, no one has ever biopsied Mr. Lucier's primary cancer, correct?
A That is correct.
Q And I guess -- by the way, if the primary is in the lung, you cannot exclude bronchioloalveolar carcinoma; is that correct?
A Yeah, I couldn't exclude it as the type of growth pattern the tumor had. That would be possible, sure. But that is a primary lung cancer.
Q Now, Doctor -- and as to the relationship between smoking and bronchioloalveolar carcinoma, you would -- you would defer

to epidemiological experts, such as, Richard Doll and the Surgeon General; is that correct?
A Well, those would be fine. I think there's all kinds of data out there now about BACs. And there was an article published in the Journal of Lung Cancer not very long ago.
Q You would defer to experts in the field; is that correct?
A Well, I would defer to all of the literature that has been published.
Q Doctor, there's a scientific method that's been used in diagnoses of individuals; is that correct?
A Scientific -- I'm not sure I understand that question.
Q Well, at your deposition we discussed the scientific method which involved the generation of hypotheses, sometimes called "differential diagnoses."
A Oh, okay. Sure.
Q After doctors determine hypotheticals, possible diseases called differential diagnoses --
A Okay.
Q -- they then seek to rule them out; is that correct?
A That is correct. Yes.
Q So if you can't find the primary, one way of determining the primary is to rule out all the other possibilities, right?
A That's one way, yes.
Q And in order to do that, in order to -- first, all the reasonable differential diagnoses have to be considered and then ruled out.
A Fair enough. Sure.
Q In this case, Mr. Lucier's treaters were never told that

the cancer found in his pretracheal node in the mediastinum contained signet ring cells; isn't that right?
A They weren't told by the pathology report. I don't know if they were told, you know, verbally or not.
Q Well, there's no evidence that you know of that they were ever told by anyone, and they certainly weren't told by the

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pathology report, correct?
A That is correct.
Q So they weren't given an opportunity to decide whether the presence of the signet rings militated toward conducting further tests, right?
A Uh, I guess that's right. You know, I'm not sure exactly what the clinical doctors would do with that information one way or the other.
Q You can only speculate what they would do.
A Well, I think it would kind of depend on what they thought the clinical diagnosis was and whether or not that it made any difference with respect to how Mr. Lucier was treated.
Q Have you been provided with Dr. Kenneth Mehta's deposition in this case?
A Kenneth Mehta's deposition? I don't believe so.
Q So you don't know what his -- have you learned from any source what he thinks now of the diagnosis that he originally made of lung cancer?
A No.
Q Now, this was also staged as 3A.
A Yes.
Q And so it was thought to be uncurable with any type of

therapy; isn't that right?
A Well, I don't think that's what it states 3A means. I think what stage 3A means in the case of lung cancer is that your chance of curing is very poor.
Q Very poor.
A Very poor. And your risk of -- the five year survival of a stage 3A lung cancer is about four-and-a-half percent. It's a very low chance of you surviving after five years.
Q Now because of that, the need for an absolute determination of primary site did not exist; isn't that correct?
A Well, I think clinically -- if you look at lung cancer, lung cancer is staged both clinically and pathologically. And if you look at the current -- any current article on staging, they have what's called a C designation and a P designation. "C" stands for clinical. "P" stands for pathological. And you can make a clinical staging based on the information you have, which in this case was they had a hilar mass, it had metastatic mucin-producing adenocarcinoma in the pretracheal node proven by biopsy and in the subcarinal node proven by a chest radiograph and CT scan evaluation.
So he clinically was a T2 lesion based on the fact that the hilar mass was greater than three centimeters in diameter. He was an N2 lesion based on the fact that the tumor is in mediastinal nodes. And the N2 was a pathologic diagnosis. The hilar mass was a clinical diagnosis. So he would be staged as a T2 -- CT2, PN2 and CM -- I mean, CMX, which means that the -- it's not known whether he had metastases, and that would be a

stage 3A lung cancer.
Q Okay. But to answer the question I asked, from a practical point of view, the need for an absolute determination of Mr. Lucier's primary site did not exist.
A Well, it didn't exist because they assumed that it was primary lung cancer. And I guess if they assumed that it wasn't primary lung cancer, would it make a difference? And

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that's a question I couldn't answer. I would say probably not, but I would defer that to an oncologist.
Q Okay. Doctor, thank you.
Doctor, there are tests for discounting primary cancer to the gastrointestinal system, right?
A There are. Yes.
Q There's a colonoscopy which some of us know too well. And that's one test, right?
A It is a test, given that you have enough Versed and Fentanyl on board.
Q There are barium enemas; is that correct?
A Yes.
Q There are endoscopies; is that correct?
A There are. Yes.
Q None of those tests were performed on Mr. Lucier; is that correct?
A As far as I know, that's correct. Yes.
Q And it's too late now after chemotherapy; isn't that correct?
A Well, it's never too late to do those tests. In fact, if somebody thought that his tumor was primary in the colon and he

had a cure of that, you know, he should definitely have another endoscopic procedure actually right away.
Q You say "another." He never had one.
A Okay. He should have one right away. Because if he had a primary colonic adenocarcinoma --
THE COURT REPORTER: Doctor, could you repeat, please.
THE WITNESS: I'm sorry.
If he had a primary colonic adenocarcinoma that metastasized to a pretracheal mediastinal lymph node, then he's at risk for developing another colon cancer that also could be metastatic. And the best way to detect early colon cancer is by colonoscopy.
MR. GROSSMAN: Excuse me one moment.
(Pause.)
Q (By MR. GROSSMAN) Doctor, chemotherapy that is used to treat one organ may in fact treat other organs as well; is that correct?
A Yes.
Q In fact, that's what it's intended to do, isn't it, to a large extent?
A Well, I -- you have to be careful of that. Because it turns out that there are some fairly specific chemotherapies given for certain types of cancer. For small cell lung cancer, for example, there are some very distinct hemotherapeutic agents, for mesothelioma there are some very specific hemotherapeutic agents.
It turns out right now that the most common combination that's used to treat almost -- I would say probably 75 to 80

percent of all cancers, at least carcinomas which are epithelial cancers, is a combination of what's called Taxol, T-A-X-O-L, and Carboplatin, C-A-R-B-O-P-L-A-T-I-N.
Q And that's the combination that Mr. Lucier received.
A That's correct.
Q And that's intended to treat a wide diverse range of adenocarcinomas, isn't it?
A Well, it is. But that now -- if you look at the current

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treatment of lung cancer, that's kind of the preferred combo for adenocarcinoma of the lung, and squamous carcinoma too.
Q Are you familiar with the US PDI Drug Information for Health Care Professionals?
A No.
Q As a pathologist you don't need to review that literature?
A I'm not sure it's quite that bad. What we need to know as a pathologist, especially a lung pathologist, is which drugs cause changes in the lung that are potentially serious that are non-cancerous.
Q By the way, the combination of Taxol and Carboplatin is specifically and particularly recommended for adenocarcinoma of unknown primary site; is that correct?
A You know, I don't know if that's true or not. I wouldn't be surprised. I mean, that's really a common combo that's given right now for a lot of different cancers.
Q You would have no reason to doubt that; isn't that correct?
A I wouldn't.

Q Are you familiar with the DeVita textbook?
(Defendant R.J. Reynolds Exhibit ALC-000969 was marked for identification.)
THE WITNESS: Sure.
Q (By MR. GROSSMAN) You view that as an authoritative source?
A I do.
Q And, Doctor, where they say: We have explored the paclitaxel-based and docetaxel-based chemotherapy in this group, in addition to --
THE COURT REPORTER: I'm sorry. "...in addition to..."?
MR. GROSSMAN: I'll start this a little bit earlier.
In the last five years, we have treated most patients with carboplatin and etoposide, with or without a taxane (Taxol), either as initial therapy or after first relapse. Furthermore, we have explored the paclitaxel-based and docetaxel-based chemotherapy in this group, in addition to the well-differentiated adenocarcinoma group, and found these regimens useful. We are attempting to confirm that taxane-based chemotherapy is superior to other chemotherapy regimens.
THE COURT: You have to slow down, please.
MR. GROSSMAN: Yes.
Q (By MR. GROSSMAN) Now, Doctor, the DeVita text further says: At present, the treatment for most patients with poorly differentiated carcinoma, with or without features of adenocarcinoma -- and that's what Mr. Lucier had, correct?
A Yes.

Q ...is controversial, but we think that they should be treated initially with a regimen containing Taxol, Carboplatin and oral etoposide.
You have no reason to disagree with that, do you?
A No.
Q And you have no reason to disagree that in the case of poorly differentiated adenocarcinoma, the broad treatment of Taxol and Carboplatin is most appropriate regardless of primary site?

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A You know, I'm not an expert in that area, but I would not have any objection to that statement.
Q Thank you.
Doctor, let's -- let's turn now from the stomach and the intestine to germ set. Okay?
A Okay.
Q In addition to cancers of the digestive system, the germ cell cancers are important to identify, aren't they?
A They are.
Q Let's tell the jury a little bit about what germ cells are. There's been a lot written recently in the popular literature about stem cells.
A Yes.
Q Stem cells and germ cells are the same thing, right?
A They are.
Q They occur in the mid-line of the body.
A They do.
Q Correct?
A Yes.

Q Including the mediastinum itself, right?
A That is correct. Yes.
Q They're capable -- and the reason they're so valuable for research is they're primordial cells in a way, aren't they?
A Right.
Q They're capable of turning into other types of cells, right?
A That is correct.
Q They -- they're the cells from which every organ of the body was originally created; isn't that right?
A That is correct. Yes.
Q Now, there's such a thing as germ cell or a stem cell cancer; isn't there?
A It's called germ cell cancer. It's not referred to as stem cell cancer, yet, that I know of anyway.
Q And those cancers which can include adenocarcinomas, can't they?
A Well, they include a wide variety of things, including at least a component of adenocarcinoma, at least in what's called embryonal, it's E-M-B-R-Y-O-N-A-L, carcinoma of the testes.
Q They tend to respond dramatically to a -- to the kind of chemotherapy that Mr. Lucier was given here, don't they?
A In general, yes. It used to be that you used cis, C-I-S, platinum versus Carboplatin.
Q But unlike lung cancer which is almost always, unfortunately, a death sentence -- not always but very often, right?
A Yes.

Q Germ cell cancers can respond particularly well to the combination of Taxol and Carboplatin.
A You know, that's not my area, but I think at least -- obviously, probably the most famous example of that would be the Lance Armstrong, except that he didn't receive Carboplatin, he just received CIS platinum.
Q I'm sorry. CIS platinum. Taxol and CIS platinum.
A Right.
Q And that -- and, Doctor, you're familiar with the Archives of Internal Medicine article by Alan Grosbach,

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Carcinoma of Unknown Primary Site?
A Yes.
Q It was exhibit -- we discussed that at your deposition. Do you recall that?
A I do.
Q He wrote, which we discussed at your deposition:
Adenocarcinoma or undifferentiated cancer of unknown primary site may represent an unusual presentation of extragonadal germ cell tumors.
Do you recall that?
A I do.
Q Men with this syndrome are younger than most patients with cancer of unknown primary site, median age 29 years old, and are frequently seen initially with mediastinal or pulmonary tumors.
Do you recall that?
A I do, yes.
Q It also says: "Extragonadal," that means germ cells, not

from the gonads, not from the sex organs, right?
A Yes.
Q Extragonadal germ cell tumors are potentially curable with combination chemotherapy.
A Yes.
Q And you agree with that?
A I do.
Q Let's turn now to breast cancer. Okay?
A Okay.
Q In direct testimony you said that you saw nothing in Dr. Collins' report that would in any way suggest breast cancer. Do you recall that?
A I do.
MR. GROSSMAN: Do you have that? Thank you.
Q (By MR. GROSSMAN) Doctor, I'm referring to ALC-001003, which is already in evidence. It's the report of Dr. Helen Collins.
Now, Thursday when you were shown this on direct testimony there was a line that was skipped over, and I'd like to refer to that. Do you see under H-E-E-N-T?
A Yes.
Q He does have a three centimeter mobile left axillary node and a two centimeter soft right axillary node that does not feel pathologic.
A Yes.
Q That's to the hand, correct?
A Yes.
Q That isn't diagnostic one way or the other of cancer,

correct? Only a -- only a pathological specimen, a biopsy, could determine whether the axillary nodes contained cancer; is that correct?
A That is correct.
Q Those are the nodes under the armpits, correct?
A Right. I think that the fact that you said non-pathologic would mean that at least they were not hard. Because if you looked at most carcinomas that are metastatic axillary nodes like a breast, it would be a very hard, firm mass.
Q She said one did not feel pathologic.

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A I thought the way that sentence was written is there was a comma there, wasn't there? Maybe I didn't get that straight.
Q Well, if we parse it, if you want to do it, Doctor, if the verb form plural is "do" not "does," right?
A That's not.
Q This is the wrong page?
A Yeah.
Q I'm sorry. He does have a three centimeter mobile left axillary node, two centimeters soft right axillary node that does not feel pathologic.
A Okay. Fair enough.
Q Fair enough?
A Yeah.
Q Doctor, in breast cancer the primary site of metastasis is the axillary lymph node, the lymph node under the armpit, and that's why they do axillary dissection, or at least now they sample the sentinel node you've said to determine if it

does or does not have cancer; is that correct?
A That's correct, in general. It always kinds of depends where in the breast the primary tumor is at. The only exception to that rule would be a more centrally located breast tumor that might metastasized a substernal lymph node.
Q Now, Doctor, a biopsy of the axillary node was not done on Mr. Lucier; is that correct?
A That is correct.
Q Breast cancer is much more common in women, but it does occur in men.
A It does, yes.
Q The American Cancer Society reports that there were 1,500 new cases of breast -- male breast cancer tip in a typical year.
A Yes.
Q And you have no reason to disagree with that, do you?
A No.
Q And breast cancer whether in men or women is commonly adenocarcinoma, isn't it?
A Yes.
Q A person can have a breast cancer primary that was never found during their life and perhaps couldn't even be found on autopsy; isn't that correct?
A I think that's potentially correct, at least in women. I've never seen that situation in men. But in women I think that's correct, yes.
Q No reason to think that it wouldn't be true in men.
A Well, I guess you wouldn't think that. Although, you

know, most of the breast cancers that you read about in men are very obvious tumors, but I guess potentially that would be a possibility.
Q Cancers of the breast often metastasize and are often considered in differential diagnosis of metastatic adenocarcinoma; isn't that right?
A That is true.
Q In fact, you wrote that on your article on Unknown Primary Origin; isn't that correct?
A Yes.
Q Now, the breast is frequently mentioned as an organ site for a lung metastasis, correct? As the site of origin, the

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primary?
A Yes, yes.
Q And breast cancer specifically can spread to the hilar node, can't it?
A That's what I was just saying. They can, especially if they're medial in the breast, that is, close to the sternum or a substernal lymph node.
Q And they can spread to the pretracheal nodes, can't they?
A Again, they usually don't do that unless they are more in the center or the medial part of the breast.
Q But they certainly can do that, can't they?
A That's possible, yes.
Q Now, there's a lobular form of breast cancer that has a signet ring pattern, isn't there?
A There is. Uh-huh.
Q And there's an immunohistochemical marker, the staining

you were talking about, for that kind of breast cancer, isn't there?
A Yes.
Q It's called E-Cadherin; isn't that right?
A Yes. Capital letter E, dash, capital letter C-A-D-H-E-R-I-N.
Q Mr. Lucier's slides have never been tested for that; is that correct?
A As far as I know, they have not.
Q You're familiar with the Journal of Histopathology, aren't you?
A That is the counterpart -- the British counterpart of our journal called the American Journal of Surgical Pathology, but I don't read the Journal of Histopathology. But I am familiar with that, yes.
Q It's a substantially well respected peer-review journal.
A I think it is, yes.
Q One that you find reliable.
A Well, again, I don't read that so I can't comment on that one way or the other.
Q Well, you're familiar with the article in there by Castro and others called Primary Signet Ring Cell Adenocarcinoma: A Clinicopathological Study of 15 Cases, aren't you?
A Yes.
Q Doctor, do you have a copy of that?
A I do.
Q Doctor, in that article -- the article states that primary signet ring cell adenocarcinomas are tumors more often

associated with other sites, such as the gastrointestinal tract or breast.
You see that, don't you?
A I do.
Q And you have no reason to doubt that primary signet ring cell adenocarcinomas are tumors more often associated with other sites, such as the gastrointestinal tract or breast; isn't that correct?
A That is correct.
Q We've gone over diet in the context of lung cancers, specifically lung adenocarcinoma. Diet is also a risk factor for male breast cancer; isn't that correct?
A I know it is now. I didn't know that until we discussed

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it at the deposition.
Q But you've since looked at it and you know it is?
A Well, that's what they say. You know, the diet thing seems to me -- in all of these adenocarcinomas seems to be changing. And I would say that -- I would -- I would be highly skeptical of any of those things, and I could show you some new articles on lung cancer and diet. But that has been reported that there is an increase incidence of adenocarcinoma of various sites, female breast, I guess male breast with, again, excess intake of saturated fats, things like that. But a lot of that turns out to be variable from one report to another.
Q Doctor, family history is also a risk factor for breast cancer, isn't it?
A It is, yes.
Q A significant risk factor.

A It is, yes.
Q In men and women.
A Yes.
Q Now, it's been reported by respectable authors and in respectable journals that you agree with, that you rely on, that if a man has a mother or a sister who had breast cancer his chances of getting breast cancer are increased by more than a factor of two; isn't that right?
A Well, that's correct. But, you know, when you look at that from a practical point of view, if there's only -- I say only -- if there's only 1500 cases a year of breast cancer in men, you know, even though that sounds like a lot of cases it -- if you looked at that compared to lung cancer which is about a 185,000 right now, it's really a very small incidence, and there's just not a lot of cases of breast cancer in men that are occurring around. What you're really worried about is breast cancer --
MR. GROSSMAN: Move to strike as nonresponsive, your Honor.
THE COURT: Stricken.
Q (By MR. GROSSMAN) Doctor, if a person -- if a man's sister or mother had breast cancer his chances of getting breast cancer are increased about two and a half times; is that correct?
A That may well be true but, you know, from a practical point of view, again, never seen it.
MR. GROSSMAN: Move to strike the remaining.
THE COURT: Denied.

Q (By MR. GROSSMAN) Doctor, Mr. Lucier had one sister and one aunt who each had breast cancer; is that correct?
A That is correct.
Q And Mr. Lucier's family relationships would elevate his risks for breast cancer; isn't that correct?
A Well, I guess from what you just stated, the answer would be yes. I don't know how much it would be in an aunt and a sister.
Q The sister -- the sister is the --
A It's a first-degree relative.
Q A first-degree relative.
A Yeah. Right.
Q And that would increase his risks.
A But what you can test for now is called the ---

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THE COURT REPORTER: Could you repeat.
THE WITNESS: The B-R-A-C gene. B like in boy, R like in run, A like in apple, C like in car.
Q (By MR. GROSSMAN) And Mr. Lucier did not have that test; is that correct?
A Did not have that test. Still could have the test.
THE COURT: We'll take a ten-minute recess. We're going to keep on a strict schedule this afternoon. Just ten minutes. Please don't discuss the case.
(Recess.)
THE COURT: Okay.
MR. GROSSMAN: Thank you very much, your Honor.
Hi, everybody.
Q (By MR. GROSSMAN) Doctor, let's turn to the question of

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staining. You wrote an article that we discussed previously called, Metastatic Adenocarcinoma of Unknown Primary Origin. And for the record, that is Defendant's Exhibit ALC-000949.
(Defendant R.J. Reynolds Exhibit ALC-000949 was marked for identification.)
Q (By MR. GROSSMAN) You have a copy up there with you, don't you?
A No.
MR. GROSSMAN: May I approach, your Honor?
THE COURT: Yes.
THE WITNESS: Thank you.
Q (By MR. GROSSMAN) You're familiar with that article, Doctor?
A I am. Yes.
Q You wrote it?
A I did.
Q And it refers to the phenomenon of metastatic adenocarcinoma. What we have here, correct?
A Right.
Q And it's specifically, Metastatic Adenocarcinoma of Unknown Primary Origin.
Now, Doctor, in that article you review various studies that have considered the percent of cases in which staining has been done of different kinds that have shown lung tumors, lung primaries or breast primaries or colon primaries or stomach primaries or the like; is that correct?
A Yes.
Q When those studies are performed they're not performed on

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the metastasis but on the primary itself; is that correct?
A Well, the studies that have looked at that have done two different things. Usually with -- to use these studies in metastatic tumors of unknown primary site you have to know what normal cancers express. So you just can't take a tumor that you think is a metastatic tumor of an unknown primary and start doing a bunch of tests on if you don't know what a cancer that occurs in a primary site would express.
For example, in the lung it turns out that there are a number of different substances that you see in primary adenocarcinomas of the lung, some of which would be relatively specific, some of which would be not specific. And that's also true of the breast. For example, most breast cancers that are relatively well differentiated express estragon and progesterone receptor proteins, whereas you would not see that

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in lung cancer.
So there's a whole spectrum of things that have been done. The first thing that has been done extensively is to look at what you would see in primary cancers at that site, and then you use that information to apply to tumors that are thought to be metastatic of unknown primary origin.
Q Let's break this down into a number of parts.
A Okay.
Q You -- the first thing you do is to look to see which of these markers are present in the primaries themselves, right? That's what the tests are. If -- for example, there's a test for TTF-1, CK-7, other things that you discussed in your direct testimony. Those tests are initially run on the primary

lesion, not on metastases; is that correct?
A That is correct. Yes.
Q And the percentages you were referring to are on the primary lesion; is that correct?
A Well, that's what the data that you obtain is so you can use that data when you apply it to some other type of cancer where you don't know the primary.
Q And do you know the correlation between the primary and metastasis as to the expression of particular agents?
A It's pretty good. I don't know if I could give you an absolute --
Q It's not a hundred percent; is that correct?
A It's not a hundred percent, but it's pretty good.
Q Now, Doctor, even apart from the question of primary versus metastasis for these chemicals, none of the tests, none of the staining tests are a hundred percent specific; is that correct?
A That is correct.
Q And in particular for lung cancer there's no test that can rule out lung cancer a hundred percent, right?
A That is correct.
Q And there is no test that can rule in lung cancer a hundred percent; is that correct?
A That's also correct. Yes.
Q And there is no test that's a hundred percent specific for excluding other sites.
A That is also correct.
Q Doctor, in this case, in Mr. Lucier's case, Dr. Ellis,

who is a pathologist at UC Davis, conducted some staining on Mr. Lucier's brain pathology.
A Yes.
Q Two years ago, right?
A Yes. Uh-huh.
Q He performed an S-100 an EMA, a CK-7, a CK-20, a CAM 5.2, a 34 BE-12 and an AE-1 and AE-3; is that correct?
A Yes, he did.
Q Now, there was no staining of that kind on Mr. Lucier's mediastinal tissue; is that correct?
A No. What happened, at least according to the Santa Rosa Pathology Department, is that they had to make so many recuts from the paraffin block because there was no tissue available.
Q And so it wasn't performed; is that correct?
A There was only one test -- an immunohistochemical test that I know of that was performed on the mediastinal tissue,

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and that was a CEA. And that was positive.
Q Now, Doctor -- and that was performed when?
A I'm not sure when it was performed. It was not performed by the treating hospital. It was performed by, I think, one of your experts.
Q That was done on brain tissue; isn't that correct?
A I thought that was mediastinal tissue.
Q It was brain tissue.
A Brain tissue. Okay.
Q Doctor, there were no tests done on the mediastinal tissue; is that right?
A Well, that's what I thought, but I thought there may have

been a CEA done by one of you folks.
Q Not that I know of.
A Okay.
Q Now, speaking of the tests that were run on the brain cells, none of those tests is specific and most are very nonspecific; isn't that right?
A I don't think I would look at it quite that way. I could tell you the ones that I think are fairly nonspecific.
Q Well, you've said that AE-1 and AE-3 are nonspecific.
A Yes. That's correct.
Q Right?
A Yes.
Q CAM 5.2 is very nonspecific; is that correct?
A It's relatively nonspecific. It would stain -- basically CAM, C-A-M, and then 5.2 is an antibody that detects what's called Cytokeratin-8. And it's a low molecular weight keratin and it can be seen in a lot of different types of cancers.
Q The S-100 protein is usually not helpful one way or the other; is that correct?
A Well, in this case it wasn't helpful one way or the other, but I think the reason they did that initially in this case was two things. S-100 protein stains glial, G-L-I-A-L, cells and also stains the cells of what's called a malignant melanoma, M-E-L-A-N-O-M-A. And S-100 protein would stain the melanoma cells, and it would also stain the glial cells.
So when they looked at that tumor the brain if it turned out that all of those cells were S-100 protein positive, I would have to make a distinction between a primary glial cell

tumor of the brain or a metastatic melanoma. But it was negative, so it wasn't a problem. But that's a relatively specific test, for example.
Q But it's not specific that would -- in any way that would affect this case?
A No, it isn't. No.
Q And, Doctor, positive epithelial membrane is very nonspecific; isn't that right?
A In most carcinomas it is. I don't think it really helps here. Where it is helpful is in another setting.
Q What you found more specific, but certainly not specific, are what are referred to as the CK-7 and CK-20 tests; is that correct?
A Yes. Those would be -- of those that were done, those would be most specific, and also I think in this instance it turned out that the CEA was also helpful.
Q Well, we'll come to that. But talking now about the

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tests that were run on the brain cell by -- by UC Davis --
A Yes.
Q -- Dr. Ellis.
CK-7 and CK-20 are the most specific but they're nonspecific; isn't that correct?
A Well, they're nonspecific, but I think, again, you have to take that in context. For example, CK-7 would be present in essentially a hundred percent of all adenocarcinomas of the lung at this point in time, if you had the current antibody. CK-7 is hardly seen in any primary colonic adenocarcinomas, adenocarcinomas of the colon. Whereas CK-20 is hardly ever

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found in primary adenocarcinomas of the lung, but it's present in almost a hundred percent of primary adenocarcinomas of the colon.
So it's a little bit helpful, but then when you get into the other gastrointestinal tract tumors, like pancreas, stomach, bile duct, small intestine, you usually see co-expression of both CK-7 and CK-20. But in this case the CK-20 was clearly negative. The CK-7 was clearly positive.
Q Doctor, taken together, these tests that were run at UC Davis ruled out brain cancer, right?
A Yes.
Q Primary brain cancer.
But, of course, adenocarcinoma never starts in the brain; isn't that right?
A That is correct. Yes.
Q They're consistent with breast cancer; isn't that right?
A Well, I don't think they're consistent with breast cancer in that the CEA --
Q Doctor --
A Oh, we're just talking about --
Q -- please answer the question.
A -- CK-7 and CK-20?
Q Yes.
A That would be okay for breast cancer.
Q In fact, almost a hundred percent of breast cancers would stain that way with CK-7 and CK-20; isn't that right?
A That is correct. Yes.
Q Doctor, they are consistent with stomach cancer; isn't

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that correct?
A Uh, I don't know if I can answer that question without looking up the cytokeratin profiles of stomach cancers, which I just don't see that many of, and I would have to look that up. What I -- what I generally know that's been published is that usually you would see co-expression of CK-7 and CK-20. So I would say that a finding of negative CK-20 would probably be a little bit unusual in stomach cancer, but I would have to look it up.
Q You certainly wouldn't rule it out; isn't that right?
A I'm not sure what I would do. I would to have look up the information.
Q Okay. Consistent with germ cell cancer; isn't that right?
A You certainly can form -- find keratin in germ cell cancer. I don't know if there's any specificity for germ cell cancer or not. There are some other things that are very good for germ cell cancer.

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Q Have you seen Dr. Ellis' deposition?
A No.
Q You wouldn't disagree with Dr. Ellis if he said that he couldn't diagnosis Mr. Lucier's brain cancer as metastatic from the lung based on the staining he conducted.
A I don't understand exactly -- did he say absolutely, or did he think the pattern was consistent with? I mean, that's kind of -- kind of a general statement.
Q No one disagrees that the pattern is consistent with lung, but it's not inconsistent with a number of other things;

isn't that correct?
A Well, but that's fair enough, though. I mean, you can certainly say that the pattern that he had in his brain was consistent with a metastatic tumor from lung, and knowing that the man has a right hilar mass, knowing that the most common single site of an isolated metastases in the brain that has the morphology of an adenocarcinoma is from the lung. That is published many, many, many times over.
Q Doctor, could you turn to the article which we previously marked as 949 --
A Sure.
Q -- Metastatic Adenocarcinoma of Unknown Primary Origin.
A Sure.
Q I direct your attention, if I could, to page 1398.
A Okay.
Q You caution against interpreting the results of CK-7 and CK-20 staining in making a site specific diagnosis of adenocarcinoma, don't you?
A I do. Sure.
Q In fact, you say that based on a relatively extensive use of antibodies against cytokeratin-7 and 20 and diagnostic tumor pathology, this author, that is you, would suggest caution in interpreting the results of these tests in making site specific diagnosis of adenocarcinoma; isn't that correct?
A That is true. But I also go through there in that article -- and I could read this back to you -- of how I say what percent are positive and that starts out in that table.
For example, if you look at lung cancer, CK-7 --

MR. GROSSMAN: Move to strike as nonresponsive.
THE COURT: Sustain at this point.
THE COURT: What's the exhibit number on this?
MR. GROSSMAN: ALC-949.
Q (By MR. GROSSMAN) Doctor, we took your deposition last December 11th?
A You did.
Q And on the day before you read -- you wrote a letter to Mr. Olsen who is associated with Mr. Brown. Do you recall that?
A I may have.
MR. GROSSMAN: May I approach, your Honor?
THE COURT: Yes.
Q (By MR. GROSSMAN) Doctor, I've handed you what's been marked for identification purposes as ACX-000097.
(Defendant R.J. Reynolds Exhibit ACX-000097 was marked for identification.)
Q (By MR. GROSSMAN) That's a copy of a letter that you wrote on December 10, 2001.

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A That is correct.
Q And you addressed it Collin Olson; was that correct?
A That is correct.
Q Of the Wartnick, Chaber law firm?
A Yes.
Q And that regards Laurence F. Lucier; is that correct?
A Yes.
Q Now, in that letter the day before your deposition was taken you wrote as follows: If the diagnosis is an issue in

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this case -- on page two -- I would suggest that you get block 99MS-3183 and perform immunostains for a cytokeratin-7, cytokeratin-20, CEA, B723, LeuM1, BerEP4 and Thyroid Transcription Factor-1, TTF-1; is that correct?
A That is correct. Yes.
Q You then wrote: I believe these additional stains would strongly support the tumor present in the pretracheal lymph nodes represents a metastatic tumor from the lung and not some other type of metastatic tumor.
Do you recall writing that?
A I do. Yes.
Q I think it would also support the notion that the tumor in the brain also represents a metastatic tumor from the lung. Correct?
A That is correct. Yes.
Q Now, you yourself raised in this letter whether diagnosis might be an issue in here; isn't that correct?
A That's not the way I said it. I said "if" diagnosis was an issue here. To me there's no question about the diagnosis in this case.
Q Doctor, your deposition had not been taken at the time; is that correct?
A Okay.
Q You had not seen any report from any defendant's expert; is that correct?
A That's correct.
Q And you volunteered on your own, you raised on your own if diagnosis is an issue in this case; is that correct?

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A Okay.
Q Now, before you conduct -- before we conducted the deposition, you also conducted two stains; is that right?
A I did.
Q One stain was CEA.
A That is correct.
Q And the other stain was TTF-1, Thyroid Transcription Factor-1; is that correct?
A That is correct.
Q It turned out that the CEA test was non-diagnostic. It didn't show anything. It didn't come out -- it just didn't come out; is that correct?
A No, that's not correct. What is correct is that the specimen for CEA didn't have an adequate sample of tissue.
Q Okay. And so you couldn't make any determination.
A Couldn't make any determination one way or the other.
Q But CEA tests are nonspecific anyway; isn't that right?
A Well, I guess it depends on the way you look at it. They are nonspecific, but it turns out for adenocarcinoma of the lung they're highly sensitive, which means that if you had a

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hundred pulmonary adenocarcinomas that you new that they were absolutely a hundred percent from the lung, and you did a CEA test on them, that would be positive between 97 to 99 of those cases.

So it's a highly specific test -- I mean highly sensitive test. It doesn't necessarily mean it's specific, because if you had a hundred colon adenocarcinomas they also would be positive in essentially a hundred percent of the time for CEA.

Q Yeah. And, in fact, even -- even if we just look at those organs that usually express CEA, that would include the colon and the pancreas and the bile duct and the small intestine and the rectum and the esophageal adenocarcinomas and the stomach adenocarcinomas; is that correct?
A That is correct.
Q And other kinds of adenocarcinomas that don't usually express CEA sometimes express CEA; isn't that correct?
A Rarely. They usually don't. Thyroid, prostate, kidney are the ones that hardly ever express CEA.
Q Now, Doctor, in your article you reported on the study that had been done by others, including an author named Sheehan.
A Maybe you could tell me where you're reading. I could --
Q Okay. The Sheehan study is noted in here -- it's footnote 12. So the text surrounding footnote 12. It's on page 1493, the first page.
A Okay.
Q Sheehan et al looked at the relative contributions of morphology, minimal clinical data, and carcinoembryonic antigen, CEA staining, in diagnosing adenocarcinomas of unknown primary origin.
A They did. Yes.
Q Okay. What that means is in this study that you cited to and you relied upon, the authors looked to see how effective using CEA staining was to determine the primary site; is that correct?
A That was just part of it.

Q Well -- and that was part of it; is that correct?
A Yeah, but there's a big other part of that too.
Q In that study cancers with known primary sites, where they already knew the primary sites, were treated as though they had unknown primaries, right?
A Yes.
Q And the doctors, the pathologists in that case were given the clinical data and the CEA stainings and the morphology, the appearance of the -- the cells under the microscope, right?
A Limited, yeah. That's correct.
Q And 49 percent -- and they were divided into two groups, right, the doctors?
A Yes. Well, there was only two people that did this.
Q Okay. And -- but they were -- they were trained eminent pathologists.
A No, that's not true. If you read very carefully, one was a person who had 15 years experience and the other person didn't have any experience, right out of residency.
Q They were both pathologists.
A Both pathologists. One with 15 years of experience and one with virtually no experience.

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Q Yes. And the one with 15 years experience got 49 percent of the group right; is that correct?
A That is correct. Yes.
Q And the one with -- who was fresh out of pathology residency got 47 percent right; is that correct?
A That is also correct. Yes.
Q So using the CEA stain, the clinical data, and the

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morphology, both of them picked over half wrong; is that correct?
A That is correct.
Q Now, Doctor, in addition to conducting the CEA -- in addition to conducting the CEA study that turned out to be -- not to have enough cell tissues available, you also conducted a Thyroid Transcription Factor-1 test.
A Right.
Q Right? That's a TTF-1.
A Yes.
Q And that's a relatively specific test for non-small cell cancer of the lung, isn't it?
A I wouldn't go that far. It doesn't stain very many adenocarcinomas (sic) and it doesn't stain very many large cell undifferentiated carcinomas. Where it's relatively specific is for adenocarcinoma.
Q Yeah. I think you misstated. You meant it doesn't stain many squamous cell carcinomas; is that correct?
A Yes.
Q It's relatively specific for adenocarcinoma.
A I thought that's what I said. I said that it didn't stain many squamouses and it doesn't stain many large cells, but it does stain about 65 to 70 percent of pulmonary adenocarcinomas.
Q Now, in your article, Metastatic Adenocarcinoma of Unknown Primary Origin, you report that 76 percent of pulmonary adenocarcinomas stain positive for TTF-1; is that correct?
A Yep.

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Q That is more than three out of four; is that correct?
A Slightly more. Yes.
Q And that means that by a three-to-one ratio a metastasis is not from a lung primary if it stains negative for TTF-1 but is from a primary in another organ; is that correct?
A I don't think I would interpret it that way because I would never only do one test and rely on one test. I think what you have to do is look at the entire spectrum of tests that were done.
Q Well, you decided -- you decided to run that test, right?
A Sure, I did, because that hadn't been done, and that's a very specific -- or relatively specific test. If it turns out positive, it's extremely helpful in this setting. But if it turns out negative, it does not rule out lung as the primary site.
Q It doesn't rule it out?
A It does not rule it out.
Q It certainly doesn't point towards it; is that correct?
A Well, you have to understand what TTF-1 is all about. What it's about is that it is --
MR. GROSSMAN: Move to strike as nonresponsive.
THE COURT: All right. We need a further question.

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THE WITNESS: This is very important.
THE COURT: Please. We just have to keep within the scope of the question.
Next question, please.
Q (By MR. GROSSMAN) Doctor, a negative TTF-1 does not point towards lung cancer, does it?

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A A negative TTF-1 does not point towards lung cancer with respect to adenocarcinoma if you were just to use that one test. But that one test being negative with a group of other tests --
MR. GROSSMAN: Your Honor, move to strike the remainder as nonresponsive.
THE COURT: Sustain at this point. Next question.
Q (By MR. GROSSMAN) Doctor, that number that you reported on, 76 percent of adenocarcinoma -- lung adenocarcinomas being positive for TTF-1, was on lung adenocarcinomas generally, right?
A Yes.
Q There have also been studies that have looked to determine what percentage of signet ring adenocarcinomas of the lung are TTF positive; is that correct?
A There's only one study that I know of that's even looked at that.
Q Well, there are -- the Merchant study did, didn't it?
A The Merchant study? Oh, that was probably referred to in the same article, yes.
Q And it found that out of 17 signet ring cell carcinomas of the lung 14 were positive; is that correct?
A Yes.
Q That's 85 percent?
A Fair enough.
Q And the Castro article, you're familiar with that?
A Yes.
Q That found that a hundred percent of the signet ring

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carcinomas of the lung were positive for TTF-1; is that correct?
A Well, in the ones they tested for. But you have to realize, and I'm sure you do, is that they only tested for six, and that was only six out of the fifteen they reported. So you don't know what the other nine cases showed.
Q Six out of six were positive; is that correct?
A Yes. That's correct.
Q Now, we've already discussed how rare a signet ring cell cancer of the lung is, haven't we?
A We have. Yes.
Q Signet ring cancer of the lung that's TTF-1 negative is that much more rare; is that correct?
A Well, I guess it depends on the way you look at it. Is it that more -- much more rare just based on the TTF-1 by itself, if that's the way you look at it, or do you put together other information that you have about the case --
MR. GROSSMAN: Move to strike as nonresponsive.
THE COURT: Denied. Next question.
MR. GROSSMAN: May I approach to take down this board, your Honor?
THE COURT: Yes.
MR. GROSSMAN: Should we put it here or perhaps over --

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why don't we move it over there so the doctor can see it.
MR. PAUL: Would you like me to move?
MR. GROSSMAN: No. You can move there as we did with the light box.
MR. PAUL: Sure. I'll move up here.

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MR. GROSSMAN: That's fine. Wherever you want.
MR. PAUL: Thank you.
Q (By MR. GROSSMAN) Doctor, let's do some numbers. Okay?
A Okay.
Q There were approximately 90,000 new cases of male lung cancer in the United States last year. That's typical, isn't it?
A Yes.
Q Now of those, Doctor, adenocarcinoma, according to your book Pulmonary Pathology, accounts for 24 percent of male lung cancer?
A Uh, if that's what it said at that point in time, that would be accurate. I would say at this point in time it's higher than that. But at that point in time it's what the statistics were.
Q Okay. Even if it's 30 percent -- it's no more than 30 percent now, is it?
A I think it probably is right now more than 30 percent.
Q Let's take 30 percent. Okay?
A That's fine. Sure.
Q Doctor, that would leave 27,000 cases of lung -- male adeno of lung --
A That's correct.
Q -- in a year, right?
A Yes.
Q Okay. Doctor, now -- we went over the Kish article which is the largest sample ever done on -- on signet ring cell of the lung; is that correct?

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A As far as number of cases evaluated to find that number.
Q Yes.
A Yes.
Q And they found that .14 percent of the 35,000 patients with adenocarcinoma of the lung had signet ring cell; is that correct?
A Yes.
Q Now, I'm going to use my calculator, if that's all right.
(Pause.)
Q (By MR. GROSSMAN) That would be 38; is that correct?
A Okay.
Q So that's 38 male signet ring of lung per year, correct?
A Statistically, yes.
Q Statistically.
A Yes.
Q Now, even if we use the number applied to adenocarcinoma generally from your article as opposed to the even smaller numbers from the articles on signet ring, and that is that 24 percent of males -- of signet ring -- I'm sorry -- 24 percent of adenocarcinomas tested negatively for TTF-1, that would produce nine; is that correct? That's the math, isn't it, Doctor?
A I'm just multiplying it. That would be about right, yeah.

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Q So there are a hundred million adult men in the United States, correct, approximately?
A I'm not sure.
Q Three hundred million people in the United States.

A That's about right.
Q Half of them are men.
A Theoretically, I guess.
Q And about a hundred million are adults.
A Fair enough.
Q Out of a hundred million men, statistically in a year there might be nine cases of a lung cancer that's adenocarcinoma with signet ring cells and that's TTF-1 negative.
A So what.
Q So what, indeed.
You said earlier that male breast cancer is rare.
A It is.
Q Rarity by itself doesn't exclude a disease, does it?
A It doesn't exclude a disease, no.
Q Doctor, we said on last Thursday that you have received three to four hundred cases from Mr. Brown's firm over the years.
A Yes. Uh-huh.
Q And you understand that in this case the plaintiff's success depends at a minimum, as a first instance, upon a diagnosis of lung cancer, right?
MR. PAUL: Objection; argumentative.
THE COURT: Sustained.
Q (By MR. GROSSMAN) Well, we just talked a moment ago about the letter that you wrote to Collin Olsen on December 10th of the Wartnick firm.
A Right.

Q On December 11th, I took your deposition; is that correct?
A That is correct.
Q And at that time we discussed a number of possible sites in this case. Do you recall that?
A Same thing we talked about today.
Q Doctor, let me hand you --
MR. GROSSMAN: If I can approach the witness, your Honor?
THE COURT: Yes.
Q (By MR. GROSSMAN) Doctor, I'm handing you what has been marked for identification purposes as PX-2011.
(Defendant R.J. Reynolds Exhibit PX-2011 was marked for identification.)
THE WITNESS: All right.
Q (By MR. GROSSMAN) Doctor, this is a note that you wrote to yourself while I conducted your deposition; is that right?
A That is correct. Yes.
MR. GROSSMAN: We would offer this in evidence.
MR. PAUL: No objection.
THE COURT: Received.
(Defendant R.J. Reynolds Exhibit PX-2011 was received into evidence.)
MR. GROSSMAN: Thank you.
Q (By MR. GROSSMAN) Doctor, this is that note that you

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wrote to yourself?
A That is correct. Yes.
Q And in that note you wrote down a number of

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immunohistochemical stains that might be performed; is that correct?
A That is correct. Yes.
Q You included PSA, and PLAP and HC6 and XFP and ER, PR. Do you see those?
A Well, the HC6 is actually HCG.
Q Let's just go over some of those very quickly, could we?
A Sure. Mm-hmm.
Q You listed PSA?
A Right.
Q That's a prostate specific antigen?
A Right.
Q And that's just to make sure that this wasn't a prostate cancer?
A That is correct.
Q And that issue came up because of the blood in the urine?
A Right.
Q And you included HC6; is that correct?
A HCG.
Q Oh, okay. HCG. I'm sorry. That's Human Chorionic Gonadtropin; is that correct?
A Human, H-U-M-A-N, Chorionic, C-H-O-R-I-O-N-I-C, Gonadtropin, G-O-N-A-D-T-R-O-P-I-N. Yes.
Q And that's a marker for germ cells; is that correct?
A That is correct.
Q You included alpha FP; is that correct?
A Yes. Yes.
Q That's another marker for germ cells; is that correct?

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A That is correct. Yes.
Q You included BRST-2; is that correct?
A Yes.
Q That's a breast cancer marker, right.
A Gross cystic fluid protein 15. Yes.
Q Now, if that came out positive that would tend to prove breast cancer, right?
A Uh, if it came out positive that would favor breast cancer, yes.
Q And would it tend to exclude lung cancer; is that correct?
A Yes.
Q Next is ER, estrogen receptor protein?
A Yes.
Q A significant percentage of primary breast cancers or metastatic breast cancers will express that; is that correct?
A Yes, usually the better differentiated ones.
Q And it's very, very rare in lung cancer; is that correct?
A That's my experience, yes.
Q So the presence of BRST-2 would tend to exclude lung cancer; is that correct?
A That is -- I thought you were -- you asked about that a second ago. You mean ER and PR?
Q Yes. This is PR.
A Yeah. Both of those if they were positive would tend to exclude breast cancer.
Q Now, Doctor, you never ran these tests, did you?

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A I could not run them.
Q Well, there was additional tissue from -- on the brain

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cell; is that correct?
A I tried to get it. I could never get it.
Q On the brain cell?
A Yeah.
Q You mean -- who did you ask for?
A Well, Mr. Brown is trying to get that material for me and we never got it.
Q Well, perhaps we'll to have call Mr. Brown.
Doctor, you are aware that there was additional material on the brain, weren't you, that there was an additional cell block from the brain?
A There was one block in the brain that I knew had tumor tissue, which was Block A, and I don't who had that tissue. If you look at the deposition that was taken that day that you took, it was uncertain where that tissue was.
Q Doctor, your deposition was taken a second time, and you said you decided against running these tests.
A I did decide against it, yes.
Q And so you never ran these tests.
A Well, what I said -- if you looked at that little thing, these are immunohistochemistry tests we should do on sections --
MR. GROSSMAN: Move to strike, your Honor.
THE COURT: Sustain at this point. There's no question pending.
Q (By MR. GROSSMAN) You never ran those tests.
A I could not run those tests on that block there because that block had already been exhausted.

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Q That's the block from the mediastinum.
A That is correct.
Q But you never ran those tests on the brain or anything else; is that correct?
A That is correct.
Q You never ran the tests that you suggested in the December 10th letter on the brain; is that correct?
A That is correct.
Q Doctor, thank you.
And you decided not to run those tests on the brain.
A I did decide that, yes. Uh-huh.
Q Doctor, in June of 1999, Mr. Lucier was diagnosed with stage 3A. We've discussed that.
A Stage 3A lung cancer, yes.
Q And he was -- and a course of treatment was ordered for him involving radiation and two chemotherapy chemicals as we've discussed, right?
A That is correct. Yes.
Q Now, it was presumed, as you've testified, in 1999 that Mr. Lucier would have a very short life span.
A That's correct.
Q Later, Mr. Lucier had a diagnosis of brain metastasis which brought him to a stage 4; is that correct?
A That is correct also. January of 2000.
Q The life expectancy of a person with stage 4 lung cancer is six months, and the percent surviving at the end of five years would be 1.57 percent; is that correct?

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A That is also correct.

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Q In fact, the percent surviving after two years -- it's two years since Mr. Lucier was diagnosed with brain -- with cancer in the brain that would make it stage 4, right?
A Well, yes. January 2000 -- well, he had his first episode of seizure in December of 1999, diagnosis 2000, so it would be --
Q Three years.
A -- three years. Three years in January.
Q It's now been three years.
A Mm-hmm.
Q The percent of stage 4 lung cancer sufferers who survive three years is about two percent; isn't that right?
A Very low.
Q It's about two percent.
A Yes.
Q One in 50.
To your knowledge, Mr. Lucier is currently in remission; isn't that right?
A That's my understanding, yes.
Q There's no evidence -- no current evidence that he has cancer in any part of his body; isn't that right?
A It's my understanding.
Q And it's your testimony that it's remarkable, given the fact that Mr. Lucier was staged as 3A in the summer of 1999 and stage 4 thereafter, that he shows no evidence of tumor recurrence, isn't it?
A It is remarkable and I'm really happy for him.
Q We're all happy for him.

6049

In fact, the more time that goes by the greater the chances of Mr. Lucier's survival.
A That is correct.
Q The longer that he remains disease free the better are his chances for survival.
A That's also correct.
Q But it's also correct, as you put it when I deposed you last year, that statistically Mr. Lucier should have died a long time ago.
A Well, statistically that is absolutely correct, he should have. And it gets, I guess, back to some of those immunohistochemical tests. Even though statistically they should be a certain way, there always are outlyers (sic) or always ones that don't actually meet the expected type of results.
Q That's true of all the immunohistochemical stains; isn't that right?
A That is.
Q And, Doctor, your opinion about Mr. Lucier's life expectancy is based upon the assumption that Mr. Lucier's cancer was primary to the lung; is that correct?
A That is correct.
Q Mr. Lucier's longevity is much more in line with other primary sites like germ cell, isn't it?
A Well, as far as germ cell goes, it would always depend, I think, on where he was -- how he was treated, if he followed what's called the Eihorn regimen, it's E-I-H-O-R-N, or if they knew where the primary tumor was. As far as I know, he did not

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have a testicular carcinoma. But it would -- germ cell tumors in general, to answer your question the best I can, are more treatable and you have a higher cure rate than primary lung cancers.

MR. GROSSMAN: Doctor, I thank you for coming. I have no more questions at this time.

THE COURT: We're going to take a short break now. No more than ten minutes. Please don't discuss the case.

Mr. Jones, could you just stay for one moment.

(The following proceedings were then had in open court outside the presence of the jury.)

THE COURT: Mr. Jones, my impression is that we may not get out of here in time for you to make that appointment. I'm sorry. But we have to finish this today for reasons I'd rather not explain.

JUROR JONES: I understand.

THE COURT: Okay. Thank you.

(Recess.)

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6051

PAGE 6051 WAS BLOCK NUMBERED FOR TRANSCRIPTION PURPOSES
(NOTHING OMITTED.)
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6052
MONDAY, DECEMBER 9, 2002

(Afternoon Session Continued)

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THE COURT: Okay bring them in.

THE COURT: Miss Fey?

MS. FEY: Your Honor, Philip Morris has no questions of this witness.

THE COURT: Okay. Mr. Paul.

MR. PAUL: Thank you, your Honor.

REDIRECT EXAMINATION

BY MR. PAUL, Counsel for the Plaintiff:

Q. I am going to go through some stuff.

First let's see if we can clean this up a little bit, okay? Let's go through the first thing, which is Exhibit ACX-00097. This is a letter to Colin Olsen?

A. Yes.

Q. Okay. He's a paralegal, right?

A. Yes.

Q. Okay. A couple things I want to clear up.

You were asked by Mr. Grossman something about when he was diagnosed with brain cancer; do you remember that?

A. Yes.

Q. All right. I want you to look at your letter on the first page.

A. Okay.

Q. Because I think -- Both of you sort of agreed it's been three years since then.

A. It's actually two years; it's 2001, yeah. I forgot.
6053
That's my -- I should have got that.

Q. January of 2001 --

A. Yeah.

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Q. -- That he had the craniotomy, right?
A. Yeah.
Q. So in January it will be two years since he had that surgery?
A. That's right. You're correct.
Q. The last page of this report?
A. Um-hum.
Q. You make a statement that "all opinions and conclusions in my report and in this letter are to a reasonable degree of medical certainty."
A. Yes.
Q. The opinions you have stated to this jury, were they stated with a reasonable degree of medical certainty?
A. Yes.
Q. Okay. There's a difference between certainty and possibility.
Would you agree with that?
A. Yes.
Q. Many things are possible in medicine, correct?
A. Yes.
Q. As a doctor, when you're involved in doing diagnosis and evaluation -- I think we heard the term "differential diagnosis" -- You consider what the possibilities are, correct?
A. Yes.

6054

Q. But when you do a diagnosis, you determine what is reasonably probable, reasonably likely, or medically reasonably medically certain, correct?
A. That is correct.
Q. And is that what you did in the case of Mr. Lucier?
A. Yes.

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Q. All right. Get a little more basic: What was the primary site of the tumor in Mr. Lucier?
A. The lung.
Q. Any question in your mind?
A. No.
Q. I'm not going to try to spell out -- Well, maybe you can help me. Metastasize, how do you --
A. Yeah, M-E-T-A-S-T-A-S-I-Z-E.
Q. And did it metastasize --
A. Yes.
Q. -- From the lung?
A. Yes.
Q. To where?
A. It metastasized to the hilar lymph nodes -- The subcarinal lymph node, the pretracheal lymph node, and subsequently to his brain, the right frontal cerebral cortex.
Q. Was that your opinion with reasonable medical certainty?
A. Yes.
Q. Is there any question in your mind about it?
A. No.

Q. Now, let's talk about a couple other things. You have your book with you, don't you?
A. I do.
Q. Could you pull that book up.
A. Sure.
Q. This is the book you wrote, correct?
A. I did. I wrote at least -- I edited, co-edited this book and wrote six chapters in this book.
Q. It weighs what, about five pounds?
A. Ten pounds.

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Q. And it's how many pages?
A. Fifteen hundred sixty-five, I think.
Q. And significant parts of that book deal with the subject of pulmonary cancer?
A. Yes.
Q. Lung cancer?
A. Yes.
Q. Now, did you rely upon what's in that book in reaching some of your opinions?
A. Yes.
Q. Let's talk a little bit about what you do.
You do research --
A. Yes.
Q. -- Into the subjects we've been discussing?
A. Yes.
Q. Anybody pay you for that?
A. No.
Q. When you write books, how much you make an hour

writing a book like that?
A. About two cents.
Q. Two cents an hour?
A. Two cents an hour.
Q. And when you testify in a courtroom, you ask attorneys like me who take your time and effort to pay you for that time?
A. I do.
Q. Do you have partners?
A. I do.
Q. Do you split the proceeds with them?
A. Yes.
Q. Are you a multi-millionaire?

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MR. GROSSMAN: Objection, your Honor.

THE COURT: Sustained.

Q. BY MR. PAUL: Okay. You know Dr. Barry Horn?

A. Yes.

Q. Good pulmonologist?

A. Of course.

MR. GROSSMAN: Your Honor, may we approach.

THE COURT: Yes.

MR. PAUL: I'll withdraw it.

THE COURT: All right, next question.

Q. BY MR. PAUL: I want you to assume that Dr. Barry Horn testified last Friday in this courtroom; will you assume that for me.

A. All right.

Q. I want you to assume that Dr. Barry Horn testified

6057

that Mr. Lucier had lung cancer, that the tumor was in his lung.

Do you agree or --

MR. GROSSMAN: Objection, your Honor.

May we approach.

THE COURT: Yes.

(At Bench)

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THE COURT: What's the objection?

MR. GROSSMAN: The objection is that counsel can't use one of his experts to bolster another. They're independent experts. I asked the witness whether he had conferred with Dr. Horn on this case. He said no.

MR. PAUL: It's a hypothetical.

THE COURT: Ask a hypothetical, but you could probably do that without referring to certain parts of your testimony.

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Proceed.

MR. PAUL: Thank you, your Honor.

MR. GROSSMAN: Thank you, your Honor..

(Back In Open Court)

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Q. BY MR. PAUL: If I ask you to assume that the tumor was located in the lung, would you have any disagreement with that position?

A. No.

Q. Now, you're aware that various CT scans were done on my client?

6058

A. Yes.

Q. Right about the time that he was diagnosed as having lung cancer?

A. Yes.

Q. They did a CT scan of his abdomen?

A. Yes.

Q. Before they go through and they make little slices through --

A. Cuts, yes.

Q. -- Did they find any cancer in there?

A. No.

Q. Now, the abdomen includes the stomach and the bowels and colon and all that kind of thing?

A. That's a pretty large area, especially anatomically with respect to how many organs are in it.

Q. No masses, no cancer, right?

A. No. The only abnormality that they saw that I read was a small hypodensity in the spleen that they thought was a splenic infarct and also a small hypodensity in the kidney and a cyst in the kidney, and they thought that the density

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in the kidney itself was an infarct, specifically a kidney infarct.

Q. We'll talk about that in a second.

A. Okay.

Q. They also did a pelvic scan, didn't they, where they went through the pelvis?

A. They did.

Q. Did they find any cancerous masses in his pelvis?

6059

A. No.

Q. Now, you were asked -- Let's go back then to the kidney and the spleen. The term "infarct", what does that mean?

A. That means an area of an organ or part of the body in which there has been lots of blood supply in which the cells that were supplied by that vessel have all died.

Q. That means that you got cancer?

A. No.

Q. Any indication in any record that he had kidney cancer?

A. Not that I ever saw, no.

Q. Spleen cancer?

A. No.

Q. Okay. There was a record, though, about blood in the urine, correct?

A. Yes.

Q. If you have a kidney infarct, can that cause blood in the urine?

A. Yes.

Q. The fact that he's got blood in his urine, does that mean that he's got cancer if you got blood in the urine?

A. No.

Q. If you have night sweats, does that mean that you've

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got cancer in the abdomen?

A. No, not necessarily.

Q. If you got a fever, does that mean that you've got cancer in the abdomen?

6060

A. No.

Q. If you have a fever and if you have night sweats, is that inconsistent with having lung cancer?

A. You could have that.

Q. All right. Are you familiar with articles that talk about fever and night sweats being associated with lung cancer?

A. Primarily fever, yes.

Q. Now, you were asked about whether or not there were any cells taken from the lung; do you remember that testimony?

A. Yes.

Q. Were there any cells ever taken from the lung?

A. Well, there were cells taken from the lung; there weren't any cancer cells that were identified in the lung.

Q. Does that mean there's no lung cancer?

A. No.

Q. Why not?

A. Because a certain percentage of lung cancers, when they've tried to identify them by the method that we have, like bronchoscopy, you can't identify them, because they're beyond the reach of where a bronchoscope can look at or they're in an area where it's difficult to get to.

Q. Sometimes you see it, sometimes you don't?

A. That's right.

Q. Okay. Now -- Now, you were asked at one point about a report by Dr. Helen Collins; do you remember that?

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28 A. Yes.
6061
1 Q. This was Exhibit 674.1. May I have the Elmo, please.
2 This was her report of 6-17-1999. The question is cancer,
3 and you went through and discussed some of these things with
4 Mr. Grossman, correct?
5 A. Yes.
6 Q. On the second page, Dr. Collins was an oncologist,
7 correct?
8 A. Correct.
9 Q. The second page of this report where she goes through
10 the night sweats and all the rest of it, the area that I
11 highlighted: Other possibilities obviously include lung
12 cancer, correct?
13 A. Yes.
14 Q. Looking at the same series of things that you were
15 looking at, that's what she says in her report, correct?
16 A. That is correct.
17 Q. Okay. By the way, an oncologist is a person who
18 treats and is supposed to recognize cancer, correct?
19 A. Yes.
20 Q. Okay. Dr. Collins talked about the axillary nodes,
21 the nodes under the armpit?
22 A. Yes.
23 Q. If she thought they were cancerous, you think that an
24 oncologist --
25 MR. GROSSMAN: Calls for speculation, your Honor.
26 THE COURT: Sustained as to form.
27 Q. BY MR. PAUL: Is it easy to biopsy an axillary node?
28 A. Very easy.
6062
1 Q. You were asked at one point about axillary nodes, and
2 you said if they were cancerous, normally they would be
3 hard.

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What did you mean by that?

A. I meant most carcinomas that metastasize to the lymph node, they produce either what's called a desmoplastic, D-E-S-M-O-P-L-A-S-I-C, reaction, where you get a lot of scar tissue associated with the tumor, and they become hard that way. Or when they get enough of the cancer in the lymph node, the cancer cells are dense enough to make the lymph node very hard, or at least much more firm than you would find within a large lymph node that was reactive.

Q. Okay. Looking back to Dr. Collins's reported, under "impression and plans," the oncologist said the differential diagnosis would include a lymphoma which would be supported by a two-year low-grade temperature, new diagnosis of psoriasis, as a possible para- -- Whatever that word is.

You know how to say that?

A. Peroneoplasty -- It should be, Para-, P-A-R-A, -neoplasty. (Reading)

Q. -- Right syndrome. A 15- to 20-pound weight loss and night sweats. (Reading)

And then other possibilities include lung cancer, correct?

A. Yes.

Q. Mr. Lucier did not have lymphoma, did he?

A. No.

Q. Ever seen any indication in any record that he was

diagnosed as having lymphoma?

A. No.

Q. Now, you were asked about this tumor or this mass in the hilar region. Do you remember that?

A. Yes.

Q. This hilar region, is that close to the lung?

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A. Extremely close. That's right by the lung. I mean, that's part of it.

Not part of the lung specifically, but the lung parenchymal tissue. If you were to take a section to it, called a hilum of the lung, including the bronchus and the vessels, you would essentially always get lung tissue in that sample.

Q. So they're contiguous?

A. They're contiguous. That's the best word, yes.

Q. Now, in your book, you have a picture that shows stage III-A lung cancer with a mass in the hilar region, correct?

A. I do.

Q. Can you pull out that book, please.

I am going to pull it down a little bit.

And the picture that we're going to be looking at is the one on the left; is that correct?

A. Right.

Q. Correct?

A. Yes.

Q. Is that correct?

A. It is correct. Yeah.

6064

MR. PAUL: Okay. All right. Now --

THE COURT: Would you identify that for the record.

MR. PAUL: Yes, your Honor.

This is page 1136 of the doctors book, figure 32-5, and it's -- And it bears a statement underneath, it says stage III-A.

Q. What does this picture represent, sir?

A. If you -- It's a schematic diagram of both lungs. The right lung would be on the left side, and the left lung would be on your right side.

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It also shows the trachea, which is coming down and splits into the right main-stem bronchus and the left main-stem bronchus. It shows some blood vessels there that follow the trachea.

And then on the right-hand side it says T-2, N-0, N-0, and it says greater than three-centimeter tumor involving ipsilateral. And that just means on the same side as the tumor, hilar and mediastinal lymph nodes.

And that's exactly what Mr. Lucier had.

Q. Does this area that I'm circling, is this the area that we're talking about?

A. Yes.

Q. That's exactly what his situation is, correct?

A. That's exactly what his situation is, yes.

Q. That all of his doctors diagnosed at Santa Rosa, correct?

A. Yes.

Q. Thank you.

6065

By the way, you asked about a biopsy that was done, a CT-guided biopsy of the right lung. That was done in Arizona.

A. Yes.

Q. See the doctor up there, Dr. Jack R. Cavalcant?

A. Yes.

Q. He was the oncologist treating him in Arizona?

A. Yes.

Q. By the way, he diagnosed him as having stage III-A. lung cancer?

A. Yes.

Q. Okay.

This biopsy, Mr. Grossman talked to you a little bit

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about this.

Why don't you tell us where this was done in the lung, compared to where the mass was found.

A. Well, if you look down there about three sentences --

MR. GROSSMAN: Objection, your Honor, to the form of the question. Is counsel referring to the mass as -- At a certain time? At which time?

MR. PAUL: Where the hilar mass was invasive of the lung. Okay?

THE WITNESS: If you look down there about the second and third line, it starts out to the right of -- On the second line, quotes, "Prone images of the right lung were obtained, again demonstrating the infiltrative density in the posterior right lung adjacent to the pleural surface."

So the pleura is the lining of the lung posterior,

meaning "back", so the infiltrate actually was below the pleural surface in the right lung.

That's not the hilum. The hilum of the lung is in the center where the vessels, air tubes, nerves, et cetera, enter. So this was not in the pleural region. I mean, excuse me. This was not in the hilar region.

Q. BY MR. PAUL: In other words, it was in an area remote from the hilar region?

A. Right.

Q. They took a biopsy somewhere else in the lung, not where the hilar mass was located?

A. That is correct.

Q. This was another exhibit that you were shown, Exhibit ALC-46.1.

This was the doctor, Jack C. Leissring, or Leissring (pronunciation), report?

A. Yes.

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Q. Pathology report, collected for -- A sample that was collected 6/21/99?

A. Yes.

Q. The doctor says, "Compatible with metastatic non-oat-cell carcinoma; await result of special stains for further classification."

What does it mean to you, if anything, that this is "compatible with metastatic non-oat-cell carcinoma"?

A. What that means is it's compatible with a primary lung cancer. That's not what's called an oat-cell or small-cell cancer, and that they were going to do some additional

stains which turned out, in this case, to be a mucicarmine stain, and a Pas, P-A-S, diastase stain.

Q. May I have ACX-106 please. Can you call that up for me.

A TECHNICAL ASSISTANT: Hang on just a minute; it's the --

MR. PAUL: It's the adenopathy thing: That's the adenopathy thing.

MR. GROSSMAN: It's the Oregon chart.

A TECHNICAL ASSISTANT: Oh, the Oregon?

MR. PAUL: The adenopathy thing or the Oregon chart.

There it is, that's the one that I want.

Q. Doctor, did Mr. Lucier have cancer of the nasal sinuses?

A. No.

Q. Did he have cancer of the pancreas?

A. No evidence of that.

Q. Did he have breast cancer?

A. No evidence of that.

Q. Stomach cancer?

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A. No evidence of that.
Q. Kidney cancer?
A. No evidence of that.
Q. Large intestine?
A. No evidence of that.
Q. Small intestine?
A. No evidence of that.
Q. Prostate?

A. No evidence of that.
Q. Spleen?
A. No evidence of that.
Q. Gastroesophageal junction?
A. No evidence of that.
Q. Do you have evidence of adenocarcinoma of the lung?
A. Yes.
Q. Now, dealing with this issue of lung cancer, do you have an opinion as to whether or not smokers, smoking was a substantial factor in causing his lung cancer?
A. I do.
Q. What's your opinion?
A. That it was.
Q. I'm going to read a statement to you.

MR. GROSSMAN: Objection, your Honor. May we approach.

THE COURT: Yes.

(At Bench)

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MR. GROSSMAN: Its appears at first glance, even though Mr. Paul has not given us the courtesy of --

THE COURT: Please don't overhear our conversation.

MR. GROSSMAN: Even though Mr. Paul was not giving us the courtesy, that he was reading from the P.M. insert in

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the newspapers. And -- Well, for one thing, it's not -- This witness has nothing to do with that insert.

For another, it has --

THE COURT: What are you going to ask him?

6069

MR. PAUL: I'm going the ask him whether or not he agrees with the statement that the overwhelming evidence is that smoking causes lung cancer. That's all I was going to ask him. That's exactly what it says.

MR. GROSSMAN: You don't need that document.

MR. PAUL: I just wanted the wording correct.

MR. GROSSMAN: If you remember, you fully know that that was limited to Philip Morris, which hasn't conducted a cross.

MR. PAUL: I'm not going to say Philip Morris. I just want to make sure that I had the words correct.

Can I at least read it?

THE COURT: You can read it. Put it down, and that's -- And then independently ask the question.

MR. GROSSMAN: Okay, your Honor, not showing the jury what it is.

THE COURT: All right.

(Back In Open Court)

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Q. BY MR. PAUL: Do you agree that there's overwhelming medical and scientific evidence that cigarette smoking causes lung cancer?

A. Yes.

Q. You agree with that statement?

A. Absolutely.

Q. Your asked a little bit about adenocarcinomas and touched on genetics.

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Mr. Lucier's genetics have anything to do with him getting adenocarcinoma?

A. I don't think so, no.

Q. Why do you say that?

A. Because I thought he had a primary lung cancer. He was a cigarette smoker, the type of person that gets lung cancer.

Q. Ninety percent --

A. Ninety percent.

Q. -- Of lung cancer cases come from smoking?

A. That is correct.

Q. You were asked -- You mentioned at one point there's a program called the SEER, S-E-E-R, Program?

A. Yes.

Q. What is the SEER program?

A. It's a program run by the Federal Government through the National Institute of Cancer, which is part of the National Institute of Health, and it's a program looking, or recording the various types of cancer that occur in various parts of the body in men and women, and then tabulating that data on an annual basis, and sometimes giving other information in certain areas of those cancers, like whether a person is a smoker, whether they maybe had cirrhosis or something like that. And that data is all tabulated, and then it's published by the Federal Government.

Q. All right. You're familiar with that program?

A. Yes. It comes from only selected places. It turns out that Western Washington is one of the places that provide data to the Federal SEER program. And it's an end point and surveillance type of data.

Q. Well, I want to stop you there for a second because I wanted to ask you: Are you involved in a program in

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Bremerton that is cataloging cancer?
A. Very much so.
Q. What's the nature of the program that's going on in Bremerton?
A. It's a program that's approved by the American College of surgeons. We just had our renewal and grant accepted -- I should say our renewal contract accepted.
It's a program in which we have to identify every cancer that occurs in our geographical location. You had to indicate the specific diagnosis.
We have to indicate the site that the tumor occurred in.
We have to give demographic data concerning the patients.
And, perhaps most important, we have to give follow-up with respect to how the patient was treated and what happened to the patient.
Q. And for how long has this been going on?
A. It's been going on ever since I've worked over there, which is now going on 14 years.
Q. You were asked at one point is one of the things that you're tracking adenocarcinoma in the lungs of smokers?
A. Yes.
Q. You were asked about how often adenocarcinomas occur in the lung of smokers; is that correct?

A. Yes.
Q. You were also asked about how often they happen in the lungs of nonsmokers?
A. Yes.
Q. Okay. Are there studies that have been run on that subject?

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A. Yes.
Q. And what are the statistics?
A. The statistics are, in general, that 90 percent of all lung cancers, no matter what type they are, occur in cigarette smokers, and about ten percent don't, with most of the ones that don't be -- Being adenocarcinomas. And my own experience being I've never seen a case of small-cell carcinoma, for example, that has occurred in a nonsmoker.
Q. Rare?
A. Yeah. Rare, extremely rare.
Q. Okay. From the standpoint of cancer metastasizing from the lung, where is the most likely site for lung cancer to metastasize in the human body?
A. The most common site, it would be to the regional lymph nodes which would be the hilar lymph nodes, the bronchial pulmonary lymph nodes and the mediastinal lymph nodes.
Q. And from there, what is the next most likely site for lung cancer to metastasize?
A. From the next most likely site by a single metastasis would be to the brain, and that would be very closely followed up, and maybe even a little bit higher, by adrenal

glands.
Q. Mr. Lucier fits that pattern?
A. Yes.
Q. Metastasis from the lung to the mediastinum to the brain?
A. Yes.
Q. You were asked a little bit about -- Actually, quite a bit about signet-ring cell carcinoma?
A. Yes.
Q. Sometimes called SRCC?

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A. Sounds good.

Q. Easier to say.

And there was an article, a couple articles you were actually shown. Let me talk to you about a couple them.

First there was this Dr. Corrin; do you remember him. This was Defense Exhibit ACX-43, called respiratory medicine?

A. Yes, um-hum.

Q. There were a couple comments on that article. I wanted to touch on one more.

On page 9525 of that article --

MR. GROSSMAN: Your Honor, may we approach.

THE COURT: Yes.

MR. GROSSMAN: I didn't show that to the jury or --

MR. PAUL: I thought it was in evidence.

THE COURT: Please, approach the bench.

MR. PAUL: If it's not in evidence, I apologize.

THE CLERK: It is in evidence -- I'm sorry, it was

I.D.'d.

MR. PAUL: It's been I.D.'d, okay.

Q. Would you agree that the single most important factor in causation of lung cancer is cigarette smoking?

A. Absolutely.

Q. You were asked about an article of saturated fat intake and lung cancer risk?

A. Correct.

Q. What do you think has a bigger cause of lung cancer, smoking or fat intake?

A. Smoking.

Q. Why do you say that?

A. I think that's what all the epidemiological studies

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have sorted out. That even if there has been some bias or confounding factor, when you get the number of people who have been -- Who have been looked at with respect to this issue, as to whether cigarette smoking causes lung cancer, I think almost every potential confounding factor or potential bias has been sorted out, because the cancer prevention series II study had over a million people, Dr. Doll's study in Britain, Wynder's study -- On and on and on. There's just been so many people that have been looked at where this association has been made.

Q. The article, this was defendant's Exhibit AN-040117. Do you agree with the statement: "Although the vast majority of lung-cancer cases in women are caused by smoking, nine to 20 percent of cases occur in nonsmokers"?

A. I agree with that, yes.

6075

Q. Do you agree that the great majority of lung --

MR. GROSSMAN: Your Honor, this again is a document that was not put in evidence. Not to be used --

THE CLERK: I D.

THE COURT: I.D. only.

Approach the bench please.

(At Bench)

---o0o---

MR. GROSSMAN: I didn't read from the article; I asked the doctor to look at it, and he discussed the numbers that are contained in the article.

MR. PAUL: That's reading from the article.

MR. GROSSMAN: It dealt only with the question of the -- The different quintiles (sic) of fat consumption and adenocarcinoma among people who never smoked.

THE COURT: If it's a document that he's testified to when you cross-examined him -- Because there's been a

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foundation under Evidence Code Section 721. It doesn't have to come into evidence. As long as there's a section that he discussed -- It doesn't come into evidence -- And you've been stipulating, if you discussed it, he has the right to go into the relevant portions of the same document.

MR. PAUL: It is relevant.

MR. GROSSMAN: It was understood from the beginning that the question related entirely to risks among non-smoking women, not to the question of risk of smoking, which is not the subject of the article, but it's simply referred to in the article.

6076

THE COURT: The objection is overruled. Go ahead.

MR. PAUL: Thank you, your Honor.

(Back In Open Court)

---o0o---

Q. BY MR. PAUL: Do you agree with the statement, sir, that the great majority of lung-cancer cases, in both men and women, are attributable to smoking?

A. Yes.

Q. You were asked about my client's cholesterol level?

A. Yes.

Q. What do you think has a bigger effect on lung cancer, cholesterol levels or smoking?

A. Smoking.

Q. Do you know of any correlation between cholesterol and lung cancer?

A. I know of no direct correlation, or I know of no studies that have looked at specifically cholesterol levels and triglyceride levels in lung cancer.

Q. You talked about an article called primary mucinous -- Is that how you say it?

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A. Yes.
Q. M-U-C-I-N-O-U-S -- Adenocarcinoma of the lung with signet-ring cells?
A. Yes.
Q. This was Exhibit ALC-689.
You were read one section where it says, "Primary signet-ring cell adenocarcinoma of the lung should be kept in mind," correct?

6077

A. Yes.
Q. What are we talking about here? Primary adenocarcinoma of the lung; is that correct?
A. That is correct.
Q. "Primary mucinous adenocarcinoma of the lung with signet ring cells may represent a clinically silent yet aggressive disease that, like signet-ring-cell carcinomas of other sites, may metastasize widely and is generally fatal." Correct?
A. Yes.
Q. In summary, "It must be emphasized that mucinous adenocarcinoma of the lung with signet-ring cells may exist as a primary tumor of the lung. Therefore, the presence of signet-ring cells, particularly in a small lung biopsy, does not rule out primary lung tumor."
Correct?
A. Correct.
Q. That's what you're saying, sir?
A. Yes.
Q. And your testing shows that this is a primary site of lung cancer?
A. I think it is. I think the tests that were done by immunohistochemistry are totally consistent with that cancer being a primary lung cancer.

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Q. Do you think my client has male breast cancer?
A. No.
("Primary Signet Ring Cell Adenocarcinomas of the Lung, a Clinical Study", Castro/Moran, was Marked as
6078
Defendant RJR's Exhibit ALC-000690 For Identification.)
Q. BY MR. PAUL: There's another one called Primary Signet-Ring Cell Adenocarcinomas of the Lung; a Clinicopathological Study of 15 Cases."
This was the Castro article.
A. Yes.
Q. This is ALC-690. You're familiar with that article?
A. Yes.
Q. There's a table in that article of tests that can be done on page 400; is that correct?
A. Yes.
Q. These are some of the tests that were done on my client?
A. Yes.
Q. There's a test called -- Another I'm going to spell is, P-A-N-C-Y-T-O-K-E, keratin is the last part of it.
Was that test run on Mr. Lucier?
A. Yes. He had what's called an AE-1, slash, AE-3 keratin test done on his brain tumor, and that was strongly positive.
Q. What does that mean?
A. That means that a pancytokeratin -- There's an antibody in that -- antibody -- I should say.
There are antibodies against ten different molecular species --
Q. I want to get you out of here.
A. It's positive.

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Q. It's positive. What does that mean?
6079
A. It means that it's consistent with lung cancer, but a lot of other cancer.
Q. Okay. Cytokeratin 7, you testified about that, correct. That was positive?
A. Yes.
Q. Cytokeratin 20, that was negative?
A. Yes.
Q. There was a CEA test done, correct?
A. Yes.
Q. Now, you tried to talk about that a couple times. I don't want you to get into the details, but it was run on brain tissue?
A. Yes.
Q. That was, what, positive or negative?
A. Positive.
Q. What does that tell you?
A. It tells you that, with the other tests, negative cytokeratin 20, positive CK-7, that the most likely primary site would be the lung.
Q. Would be the lung?
A. Yes.
Q. And that was the test that was run by their experts, correct?
A. Yes.
Q. Another article called "Metastatic Adenocarcinoma of Unknown Primary Origin".
Does he have an adenocarcinoma of an unknown origin?
A. I wouldn't classify that. No.
6080
Q. Exhibit ALC-949, there's a table that you talk about on there, correct?
A. Yes.

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Q. What's the table, say, for lung, non-small-cell carcinoma for CK-7 positive, CK-20 negative?
A. What it says is that that -- That combination of a CK-7 positive, CK-20 negative was found in 72 percent of non-small cell carcinomas, and that could include squamous carcinomas, and large cell, undifferentiated carcinomas, as well as adenocarcinomas.
Q. The table that's in this article, does it support your opinions that you've given in this courtroom?
A. Yes.
MR. PAUL: Thank you.
You were asked about all these tests that you --
MR. GROSSMAN: Your Honor, may we approach for one moment.
THE COURT: Yes.
(At Bench)
---o0o---
MR. GROSSMAN: Just looking at the clock -- And we want to get this witness out of here -- I've got about 15 minutes of recross.
MR. PAUL: I'm almost done.
THE COURT: Okay, let's go for it.
(Back In Open Court)
---o0o---
Q. BY MR. PAUL: This list that you had made up at the deposition that they made a copy of --

6081

A. Yes.
Q. -- What's the importance of this list?
A. Well, I don't think it's important at all. The only reason I wrote any of that down is because of all the different things that were being brought up. I mean, I

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didn't think there was a breast cancer. I didn't think it was a germ-cell tumor. I didn't think it was a renal cell metastatic carcinoma.

But what I was writing down were all the tests that you could do if you wanted to exclude that, you could do them, and I finally decided that it wasn't worth it. I didn't think that there was any evidence that any of -- Where any of those other tumors were indicated in this case.

The man doesn't have a primary tumor; he has a primary lung cancer.

Q. A statement made was, in this courtroom, that my client, thank God, is cured.

MR. GROSSMAN: Objection, your Honor.

THE COURT: Sustained as to form.

Q. BY MR. PAUL: Do you think my client is cured?

A. Unfortunately, no.

Q. Why do you say that?

A. Because if you look at survival rates from lung cancer, there is -- It doesn't mean, even after you have gone disease-free -- Disease-free for three years, that you're not going to die of recurrent lung cancer. I sure wish that were the case. We don't -- You don't know how

much I wish it was. But, unfortunately, it isn't. He still has the -- The greatest chance of his death is still from lung cancer.

Q. The longevity figures that you gave, every day that goes by, please God, his chances get better, right?

A. The longer he stays cancer-free, the better his chances are.

Q. Would you agree with the statement that the evidence shows that there was no lung cancer?

A. No.

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Q. Would you agree with the statement that there is no cancer -- Cells in the man's lung?

A. Um, certainly he had cancer cells in his lung at one time. Does he have them now? I think it's likely.

Hopefully, it's not very much.

Q. Is your opinion still the same as what I wrote on this board?

A. Yes.

MR. PAUL: Thank you. That's all I have.

THE COURT: Mr. Grossman.

MR. GROSSMAN: Thank you, your Honor.

RECROSS EXAMINATION

BY MR. GROSSMAN, Counsel for the Defendant RJ Reynolds:

Q. Doctor, first of all, you were just questioned by Mr. Paul about this note that you wrote at the time of your deposition.

A. Right.

Q. And you said that you decided not to do these tests?

6083

A. Right.

Q. Now, tell the jury, how much does it cost for each of those tests to be run?

A. One hundred twenty dollars.

Q. One hundred twenty dollars a test. So if you did ten tests, it would cost -- About as much as two hours of your testimony?

MR. PAUL: Your Honor, that's argumentative.

THE COURT: Sustained.

Q. BY MR. GROSSMAN: Doctor, if you did ten tests, it would cost $1200?

A. Correct.

Q. If you did five tests, it would cost $600?

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A. Correct.

Q. Doctor, the -- You testified about Dr. Collins; Do you recall that --

A. Yes.

Q. -- And axillary nodes?

Could you bring up, please, the axillary nodes, the node document -- Adenopathy document. -105.

Yes, thank you.

Doctor, we're talking about the lymph nodes under the armpits; is that correct?

A. Yes.

Q. Now, doctor, didn't Dr. Helen Collins recommend biopsy of the axillary node?

A. I don't recall seeing that.

Q. You have no reason to doubt it, do you?

6084

A. Well, I don't recall seeing that in what I read. Maybe I didn't see it.

Q. In any event, it wasn't done; is that correct?

A. It wasn't done, because they biopsied the mediastinal --

Q. Move to strike as non-responsive.

THE COURT: Okay.

Q. BY MR. GROSSMAN: Wasn't done; is that correct?

A. It was not done. Okay.

Q. Doctor, you also referred in the -- Dr. Helen's report to her statement of one possibility included lung cancer?

A. Yes.

Q. "Possible interest" is different from a "diagnosis"; is that correct?

A. It is, yes.

Q. Now, you said the mass -- You referred to a mass in

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the hilar region; you said the hilum is not the lung?

A. That's correct.

Q. Next to the lung?

A. "Contiguous with", yes.

Q. Is the brain next to the lung?

A. No.

Q. The fact that something is next to something else doesn't mean that the metastasis necessarily goes there; is that correct?

A. That is true. But there are certain characteristic features of metastases of certain types of cancer to certain

organs.

Q. You're talking about probabilities, correct?

A. Probability.

Q. In fact, everything that you're talking about here is probability, since you never got any cancer in the lung; is that correct?

A. Well, you know, I look at it different than you do. I didn't think that just because we didn't get any tumor from the lung itself doesn't make any difference in this case. I think we've already gone over the fact that this type of mechanics in the lung as a primary cancer -- Certainly you've spent a lot of time on that.

Q. Doctor, we're talking about probability; isn't that correct?

A. Okay, okay, that's exactly what we're talking about. And I think --

Q. One of the probabilities is the probability of one out of nine -- one out of 11 million?

MR. PAUL: Beyond the redirect.

THE COURT: Go ahead.

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THE WITNESS: With this type of clinical representation, I don't care if it's one in a trillion.

Q. BY MR. GROSSMAN: Okay. Doctor.

Now, you referred to the CAT scans of the abdomen and pelvis, right?

A. Um-hum.

Q. CAT scans -- When one is interested in learning whether there is a potential lesion in the stomach or in the

colon, cat scans are done in contrast to those organs; is that correct?

A. That's a way to do it; or probably better way to do it is to visualize them.

Q. The older type is a barium enema where they put barium in the colon so they can visualize what's in the colon, right?

A. Correct.

Q. The other way is to use a colonoscopy, right, put the camera --

A. Yes, with a colonoscopy, right.

Q. And, same thing with the stomach: The old way was to have contrasting materials in the stomach, and the newer way is to visualize?

A. That's correct.

Q. In this case there was no biopsy or barium enema; there was no special visualizing; there was no special contrast? Is that correct?

A. That is correct.

Q. Now, doctor, you said that you probably got only two cents an hour for your book?

A. Yeah.

Q. All the more need to have cases like this --

MR. PAUL: Your Honor, I object; this is argument.

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THE COURT: There's no question. What's the question?

Q. BY MR. GROSSMAN: All the more need to have cases, like the 5,000 that you've had brought to you by plaintiffs' counsel --

MR. PAUL: Argument, your Honor.

THE COURT: Sustained.

Q. BY MR. GROSSMAN: Doctor, you testified about, in general, about the relationship between smoking and lung cancer.

Nobody doubts that there's a relationship between smoking and lung cancer.

But, you said that 90 percent of all lung cancers are found in smokers?

A. Yes.

Q. You don't mean to suggest to the jury that 90 percent of all adenocarcinomas of the lung are found in smokers, do you?

A. Yes.

Q. Doctor, if 90 percent of all cancer, lung cancers, are found in smokers --

A. Um-hum.

Q. -- And almost all of the small-cell cancers are found in smokers and almost all of the squamous-cell cancers are found in smokers, it can't be 90 percent of adeno's; isn't that correct?

A. Why can't it?

Maybe I don't understand your questions.

What I think is maybe if you take -- People who have adenocarcinomas of the lung and determined that they have a greater than 20-pack-year history of smoking, that's -- 90

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28 percent of those people fall into that category. And if
6088
1 they do, I would then say that their lung cancer was caused
2 by cigarette-smoke carcinogen.
3 Q. Doctor, let's do the math very quickly.
4 A. Okay.
5 Q. You have a hundred cases of lung cancer.
6 A. Right.
7 Q. And 60 of them are squamous or small-cell?
8 A. About -- It would be 20 percent are small-cell, so
9 20. And at this point about 30 percent are squamous or
10 about 50.
11 Q. Fifty percent are small cells of squamous?
12 A. Right.
13 Q. And it's your testimony that, out of those, one in 50
14 would be a nonsmoker, one in 50?
15 A. For small-cell, I don't think you would find any for
16 a nonsmoker for squamous; you might find one or two.
17 Q. So that would be one person?
18 A. Say two people. Right.
19 Q. Two people?
20 A. Right.
21 Q. How many of the remaining cancers would be
22 adenocarcinoma?
23 A. Forty.
24 Q. And the other ten would be large-cell?
25 A. Large-cell differentiated.
26 Q. And how many large-cell undifferentiated would be
27 among the nonsmokers?
28 A. I don't know that number.
6089
1 Q. It would be very low, correct?
2 A. I think they would all be among smokers, so a very
3 high percentage of smokers.

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Q. So we're down to two smokers a month, 60 in the hundred's correct?
A. Okay.
Q. And that would -- That would leave eight nonsmokers among the remaining 40 adenocarcinoma sufferers; is that correct?
A. Again, I'm not -- I don't look at it that way.
Q. Well, eight in 40 is not 90 percent; is that correct?
A. No. But I don't look at it that way. In Bremerton, Washington, where I go through these people --
MR. GROSSMAN: Move to strike.
THE COURT: Please. You have to respond to the question.
THE WITNESS: It's distorted.
THE COURT: Mr. Paul will have a chance to --
MR. GROSSMAN: Move to strike the comment, your Honor.
THE COURT: It's stricken.
Please disregard the comments.
("Primary Signet-Ring Cell Carcinoma of the Lung," by Hayashi, was Marked as Defendant RJR's Exhibit ALC-000691 For Identification.)
Q. BY MR. GROSSMAN: Doctor, let's go over specifically adenocarcinoma of the lung that has signet-ring-cell characteristics.

A. Sure.
Q. Doctor, different kinds of adenocarcinoma of the lung had different reported relative risks for smoking; is that correct? They don't all have the same -- Papillary, and as far as carcinoma of the lung, have different reported -- Reported risks than bronchioloalveolar; is that correct?

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A. I don't know that there have been big studies that have looked at that; I don't think so, not in the ones that I know of.

They've -- They have put it in adenocarcinoma as a group, and then you get into the subtypes of adenocarcinoma, the studies that I have seen, haven't typed it.

Q. Well, bronchioloalveolar --

A. Sure, groups of bronchioloalveolar groups in women, where 50 percent of them have been nonsmokers.

Q. And, doctor, the studies on relative risks depend upon the kind of cancer that's presented; is that correct?

A. (No Response)

Q. The --

A. Are you saying lung cancer, or just in general?

Q. The histological features of the lung cancer presented, correct?

A. That would be fine.

Q. Now, doctor, there are very few cases that we discussed, the signet-ring cell carcinoma of the lung?

A. That is correct.

Q. But in those cases have been -- The smoking history of people is involved; is that correct?

6091

A. There have been some reports, yes.

Q. In the Castro article, 15 patients were involved, and six of them reported having been smokers; is that correct?

A. Right.

Q. In the Hayashi article --

A. Wait a second. That doesn't mean that the other nine are nonsmokers. All that means is, of the 15 people that they had information on, that means that there were six smokers. That doesn't mean that the other nine were nonsmokers.

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Q. They said that there were 15 people on whom they got information.
A. Yeah, but look how they got the information.
Q. So you question how they got the information?
A. No, not at all. They tell exactly how they got it, and I'm saying that you can't tell from medical records, especially when you get it from pathology departments, whether the person is or is not a smoker.
Q. Well, they indicate that six of them were; is that correct?
A. Well, look at where they got their cases. Sure, but I can tell you the same thing from Bremerton. I can take a bunch of pathology reports and say this is the age of the patient and this is the sex, and then I look at the age of the -- Upper or low mass, I don't see anything about smoking.
Q. They don't get -- They were the pathologists themselves who handled --

6092

A. Well, look at where they got their cases. I just don't think that they had that information. I mean, maybe I'm wrong, but I just don't think when they say six out of 15 were smokers, that doesn't mean that the other nine were nonsmokers.
Q. How about in Hayashi?
A. Which one is that? I don't know if I have that report.
Q. ALC-000691.
May I approach the witness, your Honor?
MR. PAUL: This is beyond the redirect.
MR. GROSSMAN: Your Honor, this goes directly to the question of the relationship -- That plaintiffs talked

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about.

THE COURT: Go ahead.

Q. BY MR. GROSSMAN: Doctor, I've handed you an article by Hayashi, and others, called "Primary Signet Ring Cell Adenocarcinoma of the Lung, and Histochemical and Immunohistochemical Characterization".

THE COURT: Please, the reporter --

MR. GROSSMAN: I'm sorry; I want to get everyone out of here.

Q. Doctor, that's in Human Pathology?

A. Yes.

Q. That's the journal upon which you rely?

A. Yes.

Q. And in that article, one patient out of five had a history of smoking; is that correct?

6093

A. Let me see here.

Q. It's in the second column of the first page, six lines up from the bottom.

A. That's what that says, yes, I agree with that.

THE COURT: Is there an exhibit number for that?

MR. GROSSMAN: Yes, the exhibit number is ALC-000691.

Q. Now, doctor, in the Kish article, where there were 3500 patients and five -- Five had SRCC?

A. Yes.

Q. Three out of the five had a smoking history; is that correct?

A. Three out of the five?

Q. Yes.

A. Yes.

THE COURT: Is there an exhibit number for that exhibit?

MR. GROSSMAN: Yes.

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That is ALC-000689.

Q. Doctor, taking those all together, adding them up, that's ten out of 25 cases; is that correct?

A. Well, that's how that number's come out. If you interpret that Castro article, saying what you said --

Q. And that relates specifically to signet-ring cell carcinoma of the lung; is that correct?

A. That does. But that is assuming that the other nine cases in the Castro study were not smokers, which I don't think you can say.

Q. Well, even if we eliminate the Castro study, we're

talking about four out of ten; is that correct?

A. Okay. That's correct, yes.

Q. That's the same ratio; is that correct?

A. Fair enough.

Q. Now, doctor, you spoke about cholesterol, and you said that there's no direct relationship, correlation between cholesterol and lung cancer, right?

A. I did, um-hum.

Q. And, indeed, it's your testimony that you do know of a correlation between saturated fat intake, first of all, in cholesterol and, secondly, a correlation between saturated fat and lung cancer; isn't that right?

A. There is evidence that that increases the rate, but I have to realize that 90 percent of cholesterol is synthesized by the liver and is not by intake of -- And the elevation of triglycerides that do not relate to primary intake.

Q. There, there are a lot of primaries that can metastasize to the hilar nodes; is that correct?

A. To the hilar nodes, potentially, there could be.

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Q. And there are lots of primaries that can metastasize to the brain; isn't that correct?
A. Correct.
Q. And, Doctor, germ-cell cancer, that has no relation to smoking at all; is that correct?
A. That is correct, as far as I know.
Q. And breast cancer has no relation to smoking at all; is that correct?

6095

A. That is correct.
MR. GROSSMAN: I have no further questions.
THE COURT: Miss Fey?
MS. FEY: No questions, your Honor, on behalf of Philip Morris.
THE COURT: Mr. Paul.

RE-REDIRECT EXAMINATION

BY MR. PAUL, Counsel for the Plaintiff:
Q. But it's adeno, not breast cancer -- This is adenocarcinoma of the lung, primary, correct?
A. Right. And even if you took that data right there and said that four out of the --
MR. GROSSMAN: Objection; motion to strike.
THE COURT: Please, just respond to the question.
THE WITNESS: That's correct.
MR. PAUL: Okay, that's all I have.
THE COURT: Mr. Grossman?
MR. GROSSMAN: No, nothing further.
THE COURT: Miss Fey?
MS. FEY: No, your Honor.
THE COURT: Thank you for are patience. Have a nice evening.
Please don't discuss the case. 9:00 o'clock tomorrow morning, 9:00 o'clock.

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(The jurors depart the courtroom at 4:40 pm.)

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THE COURT: Okay. The jurors are gone. We can go off the record, can we?

6096

MR. PAUL: Sure.

(A brief discussion was held off the record re scheduling.)

(The evening recess was taken at 4:41 pm.)

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